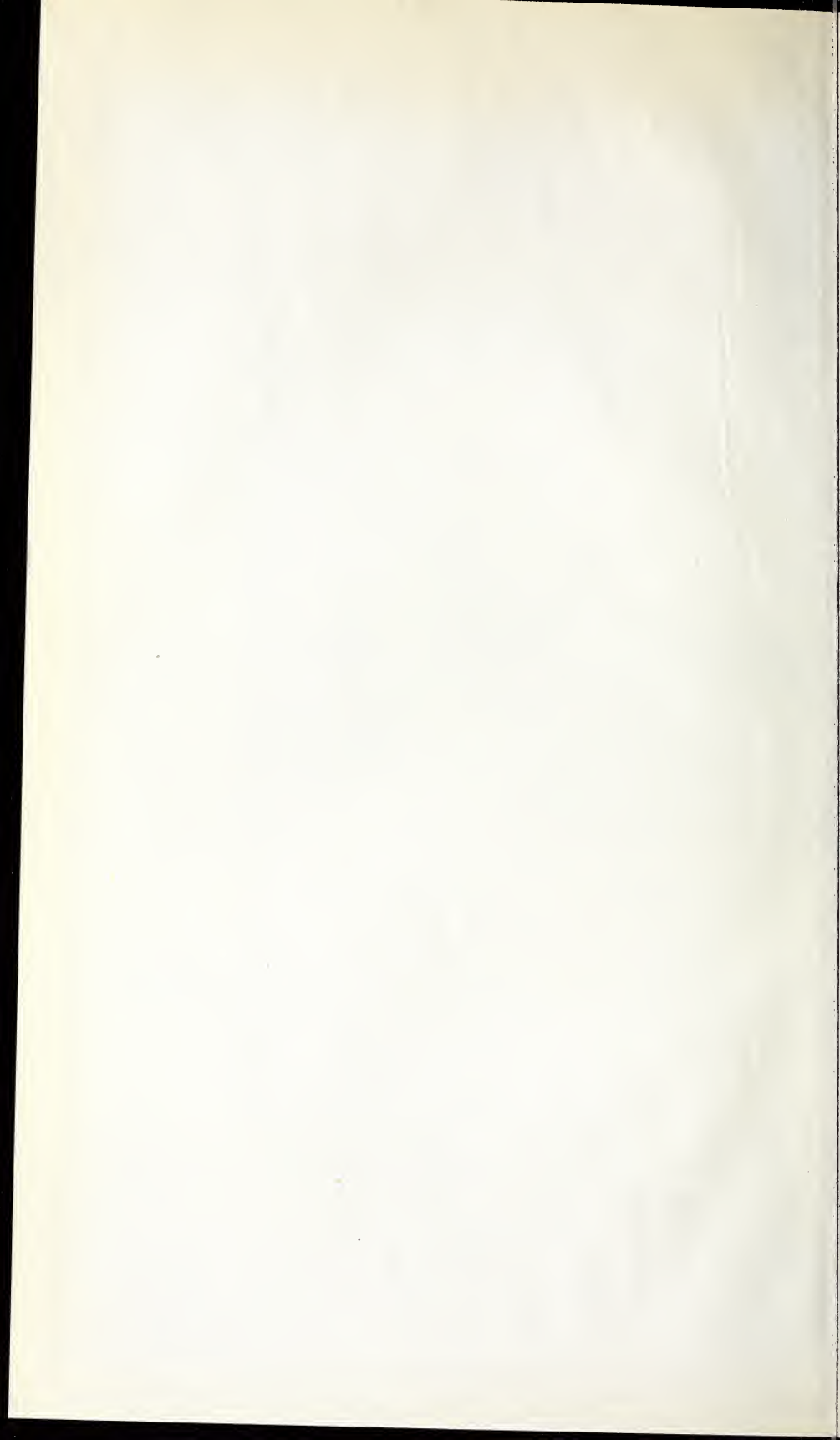




AMERICAN FOUNDATION FOR THE BLIND INC.
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ECONOMIC PUBLICATIONS

(No. 1)

THE ECONOMIC WELFARE
of the **MARITIME PROVINCES**

By S. A. SAUNDERS

\$1000 PRIZE ESSAY

IN

Competition Conducted

BY

ACADIA UNIVERSITY

WOLFVILLE, NOVA SCOTIA

1932

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ANNOUNCEMENT

The prize essay "The Economic Welfare of the Maritime Provinces" was submitted in a competition conducted by Acadia University. In 1929, a friend of the University offered two prizes, one of \$1000.00 and one of \$500.00, for the best two essays submitted on the economic welfare of the Maritime Provinces. The only stipulation was that no prize should be awarded unless in the opinion of the judges the best of the essays submitted merited such prizes.

The judges selected were Senator W. H. Dennis, Professor W. C. Keirstead, of the Department of Economics of the University of New Brunswick, and Professor A. B. Balcom, of the Department of Economics at Acadia University.

Nine essays were submitted. In the opinion of the judges, only the essay of Mr. Saunders merited a prize of the amount offered, but they agreed also that Mr. Saunders' essay merited the larger prize. Professor Balcom expresses the opinion of the judges when in his introduction to the essay he says, "This essay is by far the most comprehensive study of economic conditions in the Maritimes that has yet been made."

F. W. PATTERSON.

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INTRODUCTION

The vigorous demand for "Maritime Rights" so loudly voiced in recent years has called the attention of the people of Canada anew to the wide-spread discontent over the position of the Maritimes in Confederation which has persisted through more than half a century.

It is a familiar fact that the people of the Maritimes entered Confederation with mingled hopes and fears. There were those who believed that permanent attachment to the British Crown depended upon union. If the people of the sections already organized should vision the possibilities of union, and loyally co-operate in its realization, all parts would share richly in the great progress and prosperity that would result. But there were others who experienced grave misgivings. It seemed to them that because of the magnitude of the task of building up a great new nation, the interests of the geographically isolated little provinces by the sea might easily be overlooked, and in the formation of national policies and the fulfilment of national aspirations, their legitimate demands be passed by.

Nor have the passing years given a quietus to all these doubts and fears. It is true that, considering the difficulties encountered, the results attained are most creditable. Today Canada ranks high among the nations in world trade, in productive efficiency and in the standard of living of the masses. The organization and colonization of the vast new areas in the West and North is indeed a noteworthy achievement. Particularly pleasing is the strong sense of solidarity which now pervades the entire Dominion. But the fact remains that the Maritimes have not kept pace with the rest of Canada in all this progress. The rapid expansion in manufacturing, commerce, banking and finance, with the accompanying increase in wealth and population, that has come to those provinces which were our original partners in Confederation, has been watched by the people of the Maritimes with feelings which some might construe as envy.

The aspect of development that has caused the most comment is, perhaps, the population trends. The fact that the proportional increase in population has been some three times as great in Central Canada during the last fifty years as it has been in the Maritimes is significant. But more important is the result of the drain on rural population which has been going on steadily during this period. The rapid growth of industry in Ontario and Quebec has

created employment opportunities at home for most of their rural migrants. But with us only a small proportion of those leaving the farm have found employment at home. Migration from the rural communities in the Maritimes has meant migration from the Maritimes, and indeed, in large part, migration from Canada. This is the tragedy of the situation.

Moreover, this rural exodus is made up largely of young people just entering their period of greatest productive efficiency. As a consequence the population statistics of the Maritimes show an abnormally small percentage in those age groups whose numbers add most to income. This, in turn, involves a lower standard of living, and a decreased ability to meet the growing demands for charitable, religious and other forms of community co-operation, and to supply, through taxation, the financial resources necessary for public works, education and other important governmental enterprises. The rural exodus constitutes a severe drain on the economic potentialities of the Maritimes.

At various times commissions have investigated particular aspects of Maritime conditions, and much valuable information has been made available through their findings. But none of them concentrated on the central problem. Even the Royal Commission on Maritime Claims, whose scope of inquiry was the broadest, confined its investigation to the evaluation of specific claims of the Maritimes against the Dominion, and did not regard a study of the reasons for "the outstanding fact . . . that the Maritime Provinces have not prospered and developed, either in population, or in commercial, industrial and rural enterprise as fully as other portions of Canada" as coming within its purview. So it is that important as were the findings of that Commission, and helpful as was the legislation implementing its recommendations, they did not penetrate to the root of the trouble.

In view of these circumstances it is not surprising that wide-spread agitation and protests against real or fancied grievances on the part of the Maritimes periodically recur. Since Maritime claims have been a source of trouble in Dominion politics ever since Confederation, they cannot be lightly dismissed. They demand the sympathetic consideration of every Canadian who desires to see all parts of this great Dominion share to the fullest possible degree in its progress and prosperity.

According to popular ideas the relatively backward state of the Maritimes is to be explained as due either to the lack of intelligence, industry and initiative on the part of our people, or to the persistent disregard of the interests of these provinces in the shaping of Canadian economic policies. What-

ever truth there may be in these accusations, it is clear that they do not tell the whole story. One accustomed to historical analysis would inquire concerning the natural resources, and geographical situation of these provinces. He would want to know the extent to which these resources have been developed, the difficulties encountered, present problems, and prospects for further profitable exploitation. He would inquire, also, concerning the influence of the revolutionary developments in agriculture, transportation and industry which have occurred during the last sixty years on the course of Maritime history. This is the point of view from which Mr. Saunders has approached the problem in his Prize Essay. This Essay is by far the most comprehensive study of economic conditions in the Maritimes that has yet been made. It is strictly scientific in method, and is free from personal, political or sectional bias. Those who desire a better understanding of the present conditions and future prospects of these provinces will find this volume most helpful.

ALFRED BURPEE BALCOM.

Acadia University,
May 18, 1932.



The Economic Welfare of the Maritime Provinces

CHAPTER I.

Concerning Welfare, Pigou¹ lays down, more or less dogmatically, two propositions: first, that the elements of welfare are states of consciousness and, perhaps, their relations; second, that welfare can be brought under the category of "greater and less." Since it is not the purpose of this essay to deal with welfare, or economic welfare in general, but to discuss the problem in relation to a particular area, the first of these propositions may be passed by without comment. The matter of "degree", however, is of vital importance. Economic welfare need not necessarily involve general welfare; but, in the absence of evidence to the contrary, it might be safely assumed that any movement in economic welfare will affect general welfare, not necessarily to the same degree, but in the same direction. Therefore, if ways and means of promoting greater economic welfare among the people of the Maritime Provinces can be pointed out, it will be assumed that a desirable, or, at least, a general development is involved, and the task of proving the contrary will be left to others.

But, to return again to this category of "greater and less", the word "welfare" carries with it the connotation of a development from less to greater, nor does this connotation alter when the word "economic" is added, but the field is narrowed and the problem then becomes more specific. In general, economic welfare so far as the present study is concerned, will involve considerations of ways and means of providing more economic goods to the people of this area of Canada.

Although a greater supply of economic goods is considered as being basic in this study, yet there are conditions regarding the flow of these goods which are essential. The phenomenon of people accepting a lower rate of remuneration because it is regularly received, or because the position which they hold is relatively secure, is by no means uncommon. This aspect could be well argued upon lines of orthodox economics; but, as it would involve much time and space, and finally lead to the same end, perhaps it will be just as well to make clear what is to be understood, leaving the theoretical justification for another time and another place, and, in the meanwhile, referring the reader to Professor Pigou's "Economics of Welfare."

Seasonal unemployment has, for years been a serious problem for many industries in many lands, and the Maritimes have not escaped. As one of the secondary problems, therefore, the elimination of this, or better, its amelioration, will be considered.

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The present plight of the world, caught, as it were, in the vortex of an economic maelstrom, will not permit the very serious problem of cyclical movements to be overlooked. Whatever might be said in defence of the business cycle as an instrument with which ultimate economic progress is achieved, the cost in human suffering is so great that all seem to be turning their attention to the possibilities of mollifying its ravages, if, indeed, not entirely eliminating them. But when great and powerful nations, having full control over their fiscal and banking policies, and wielding tremendous power in the political and economic world, are unable to cope with this phenomenon of the modern industrial era, very little can be accomplished by such a small and relatively impotent region as the Maritime Provinces; yet, whatever steps are possible, should certainly be taken.

To summarize what this study of the Economic Welfare of the Maritime Provinces involves, the following considerations may be listed:

- (1)—An increase in the supply of economic goods;
- (2)—An elimination, as far as possible, of seasonal operations, or, which is the other side of the question, the levelling out of the annual income of the people; and,
- (3)—An attempt to mollify the severity of cyclical fluctuations.

THE METHOD FOLLOWED

The following discussion is analytical rather than historical, and this method has been chosen chiefly on account of the paucity of literature upon Canadian Economic problems. An Economic History worth the name does not exist, neither are there adequate histories of many of the most important and primary industries, and public finance has been sadly neglected. The outlook is more promising at the present time as a number of books on special subjects have been recently made available, and more are promised for the not distant future. Volume VI of the *Cambridge History of the British Empire*² places at our disposal several much appreciated bits of economic history, not least important of which is the economic interpretation of the position of the Maritime Provinces by Professors Fay and Innis.

The main branches of industry are discussed with a view to discover the basic problems; and, from time to time, suggestions are made, some of which it is hoped will prove of value; and, finally, proposals are submitted to provide machinery which will assist to overcome some of the handicaps for which there does not appear to be any specific remedy, and for the examination of problems which it has not been possible thoroughly to investigate.

SOME GENERAL CONSIDERATIONS

The early history of the Maritimes is primarily the history of the fishing industry, which, during and after the Napoleonic Wars, gradually yielded first place to lumbering and shipbuilding. Bluenose skippers sailed their ships

in all of the seven seas, nor were their cargoes confined to the products of the North Atlantic Colonies. In the same decade in which Confederation was consummated, however, the wooden hulls were replaced by iron ones; and decline set in in the Maritimes as in the New England States.

Some are inclined to assume that the Maritimes should have shifted over from the building of wooden to steel vessels, a suggestion made by Ira A. MacKay in his Preface to *The True Story of Confederation*, by Alexander P. Paterson. After claiming that "The Atlantic Provinces had all the materials and facilities for the building and supply of steel ships that they had for the building and supply of wooden ships", Dr. MacKay attributes the failure to take advantage of this situation to changed psychology of Canada after 1867. He writes as follows: "On that date, the people of Canada, including many people in the Maritimes, turned away from the sea and began to gaze along the long, cold corridor in the hope of building up a great land nation westward." Interesting upon this very point is a similar suggestion regarding the United States made by Bogart³ in his latest book: "Unfortunately," he says, "for the American Merchant Marine, the excellence of the clipper ship blinded our naval architects to the importance of the change, and led to an unreasoning confidence in our wooden sailing vessels."

The reason for the failure to meet changing conditions, attributed in one case to a changed psychology, and in the other to "unreasoning confidence", is undoubtedly to be found in the natural advantages which England had in a fairly well developed iron and steel industry, based upon supplies of iron and coal close to tide water. Perhaps few other industries gain more from external economies than shipbuilding, and these external economies were to be found developed in England to a much greater degree than anywhere else.

A more legitimate complaint may be made against the Maritimers, and perhaps the New Englanders as well, in that they did not continue in the shipping business, write down the capital value of their vessels, and use the earnings to purchase the second-hand iron vessels later discarded by England, until a fleet of modern vessels could be built up. Norway did this; and, at the outset purchased many of the vessels originally owned by the Maritimers. The situation on this side of the Atlantic was vastly different to that obtaining on the European side. Here, about the time the "wind jammers" were being driven off the seas, the heart of a vast continent was being opened up, which required both men and money, and which offered many opportunities for handsome profits. The trading habits of the Maritimers placed them in a position to take advantage of these opportunities, and the less remunerative field of shipping was left to overseas countries.

Men and money were drawn off, first to the United States and next to the other portions of Canada. Nor was there much in the way of compensation, as the traffic to the interior flowed through ports to either the north or south of them.

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The storm which blew the sailing vessels off the high seas, was but the precursor to the tidal wave of industrialism which has ever since beaten upon the shores of the Maritime Provinces. A small, and relatively scattered population did not make it possible to take advantage of the Maritime position in developing large scale industries; and, after the construction of the "Intercolonial" in 1876, and the inauguration of the National Policy in 1878, industries tended to grow up in Central Canada rather than in the Provinces by the sea. Tariffs always weigh most heavily upon export industries, and as these provinces depended⁴, and still do, largely, upon the export of primary commodities, the ever-increasing tariffs laid a correspondingly increasing burden upon the Maritimes. Industry after industry was started only to prove a failure; changes in the outside world made changes necessary at home, and these changes were rarely in their favor. Population grew, it is true, but slowly; and the emigration of many of the young and vigorous left relatively fewer to carry the burden of government and to produce the income for that area. Despite these handicaps, and many reverses, the Maritimes is today spoken of as "the most prosperous section of Canada", and the painful process of readjustment has, perhaps, been carried to that point where the future may be looked forward to with more hope than for many years past. It is largely, indeed, upon what has been done that the recommendations which are to be found in these pages are based, and much of the information concerning what has been, and is going on was derived from personal visits to the scenes of action.

CHAPTER II

The Forest Industries

FORESTRY—GENERAL

The Forest industries of the Maritimes, which have played no small part in shaping their economic structure, still persist as an important branch of the industrial activities of the people of these Provinces. The place which Forestry holds in contrast to other lines of production is illustrated by the following figures⁵:

Percentage of the value of the Net Production in each Industry to the Total Net Output of Each Province, 1927

<i>Industries</i>	<i>Prince Edward Island</i>	<i>Nova Scotia</i>	<i>New Brunswick</i>
	p.c.	p.c.	p.c.
Agriculture	83.6.....	25.4.....	32.7
Forestry	3.3.....	8.3.....	29.5
Fisheries	5.9.....	8.1.....	5.0
Trapping	0.0.....	0.2.....	0.3
Mining	0.0.....	22.7.....	2.4
Electric Power.....	0.7.....	1.8.....	1.7
Construction	1.6.....	14.4.....	5.7
Custom and Repair.....	0.8.....	1.9.....	1.7
Manufactures, n. e. s.....	4.1.....	17.2.....	21.0
	100.0	100.0	100.0

It will be seen that in Nova Scotia there appears to be strong competition between Fishing and Forestry for fourth place in the annual budget. New Brunswick still depends upon its forests for a large share of its annual income, although Agriculture seems definitely to have taken the lead. In Prince Edward Island, the Timber reserves cover some 33% of the land area; but as they are kept chiefly for woodlots, and, in addition, supply the raw material for a few small local mills, the Forest industries are of very slight importance; and, in dealing with these industries, attention will be centred upon the other two Maritime Provinces, where the situation is decidedly different, as the following table⁶ will show:

Area of Productive and Unproductive Forest Land, 1927.
(Square Miles)

<i>Province</i>	<i>Accessible Merchant- able</i>	<i>Accessible Young Growth</i>	<i>Unprofit- able, or Inaccess- ible</i>	<i>Total Forest Area</i>	<i>Total Land Area</i>	<i>% Forest To Land Area</i>
Nova Scotia.....	6,000	4,296	4,924	15,220	20,743	73.37
New Brunswick.....	15,750	9,110	.....	24,860	27,910	89.07

THE FOREST INDUSTRIES

Not only are the areas extensive, but the percentage of land covered by forest to the total land area is very high in both Provinces. In 1912 it was estimated⁷ that in Nova Scotia eighty per cent of the land "when not barren" was suited only to forest growth; and a study of the geology of both Provinces seems to justify this estimate for Nova Scotia, and does not permit of any great variation from the percentage of forest land shown in the above table for New Brunswick.

TIMBER RESOURCES

Estimates of Timber Resources⁸ are not all that might be desired, but those of 1926 might be taken as fairly representative and will serve as a basis for discussion:

SOFTWOOD

	<i>Saw Material</i>	<i>Pulpwood, Cordwood, Ties, Posts, Poles, etc.</i>	<i>Total</i>
	<i>M. Cubic Feet</i>	<i>M. Cubic Feet</i>	<i>M. Cubic Feet</i>
Nova Scotia.....	1,564,755	1,911,195	3,475,950
New Brunswick.....	2,525,508	3,606,642	6,132,150

HARDWOOD

Nova Scotia.....	728,284	1,918,340	2,646,624
New Brunswick.....	1,697,798	1,781,625	3,479,423

GRAND TOTAL

Nova Scotia.....	2,293,039	3,829,535	6,122,574
New Brunswick.....	4,223,306	5,388,267	9,611,573

A number of interesting observations may be made from the above figures:

- (1)—The total Timber resources of Nova Scotia expressed in cubic feet, are but 63.70% of those of New Brunswick.
- (2)—In Nova Scotia, Hardwood makes up 43.23% of the total; while in New Brunswick it accounts for 36.20%.
- (3)—Of Nova Scotia's Softwood timber, Saw Materials account for 45.02%, and of New Brunswick's for 41.18%; while in the case of Hardwood, the corresponding figures are:

Nova Scotia	27.52%
New Brunswick	48.79%

- (4)—In Nova Scotia, the large proportion of small materials, 50.09%, is made up of Hardwood; whereas in New Brunswick, Hardwood constitutes only 33.64%; but in the larger sizes, or Saw Materials, only 31.77% of the stand in Nova Scotia is of the deciduous varieties, which in New Brunswick account for 40.20%.

The larger percentage of merchantable timber shown for Nova Scotia may be accounted for to a considerable extent by the inclusion of smaller

dimensions, due to most of her lands being held privately and by small owners, but it is obvious that in both Provinces a large portion of the timber exists in the small dimension class, which would be expected considering the length of time that lumbering operations have been carried on, and the devastation caused by fires and other destructive agencies. The considerable stand of Hardwood in both Provinces is of especial interest and will engage our attention a little later on; but it may be remarked here that the high percentage found in the small sizes is due in a large degree to the replacement of Softwoods⁹ by the deciduous varieties, and the disparity between Nova Scotia and New Brunswick is very likely the result of more extensive cutting of Hardwood in the former Province¹⁰.

DEPENDENCE UPON SPRUCE

From a survey of about sixty per cent of the Crown Lands of New Brunswick, it is learned that Spruce constitutes 52.58% of the Softwood stand, while Spruce and Balsam account for over 71.00%¹¹.

For Nova Scotia, similar figures are not available, but by taking figures supplied by the Royal Commission¹² on Pulpwood, 1924, it is learned that Spruce makes up 50.17% of the entire stand of pulpwood; and as these figures include all of the stand of the species considered, the percentage given may be taken at least to indicate that a very large portion of the Softwood Forests of Nova Scotia is made up of Spruce.

The question of the supply and availability of Spruce is particularly important as this conifer plays a leading role in the Lumber and Pulp and Paper industries of the Maritime Provinces. Considering the figures of Lumber production in the two Provinces over a period of sixteen years, it is learned that in New Brunswick Spruce makes up 76.03% of the Softwoods, while in Nova Scotia, Spruce accounts for 71.85%.¹³ Similar figures for the species utilized as pulpwood are not to be had as the classification on the basis of species is not extended to include exported pulpwood. However, for wood used in the manufacture of pulp, Spruce constitutes over 50% for New Brunswick. In Nova Scotia the percentage is much higher, but as exports from that Province are in the neighborhood of five times as great as the pulpwood consumed in manufacture, the figures are not at all representative.

POSSIBILITY OF EXHAUSTION

This is no place for alarmist propaganda, but the Royal Commission on Pulpwood, 1924, considered the situation to be serious enough to warrant an estimate of the life of the forests of these Provinces at the present rate of cutting¹⁴. In the case of Nova Scotia, presupposing free interchange in the use of Spruce and Balsam, the Commission estimated the life of the forest industries to be fifty years; but so far as Spruce alone was concerned, the time limit was shortened to thirty-five years. In New Brunswick, the situation was presented as being still more serious, the time limits in this

Province being set at twenty-four and twenty-one years respectively. The purpose of this estimate, as others of its kind, was to drive home the fact that the Forest reserves in the Maritimes are not inexhaustible, and to correct the erroneous views concerning rapidity of regeneration which arise from observations of regrowth on relatively fertile and open fields.

OWNERSHIP

Turning for a moment to the question of ownership, a marked difference between the two Provinces is discovered. In Nova Scotia, only 16.6% of Forest land remains in the hands of the Crown, or under State lease¹⁵; whereas, in New Brunswick, 55.18% is Crown land¹⁶. What is more, in Nova Scotia about one-half of the area remaining in the control of the State consists of the "riff-raff" and is of little value¹⁷.

This situation is largely explicable by the difference in the history of the two Provinces. Nova Scotia, being first in the field and desirous of stimulating settlement, gave lavish grants of timbered areas; and, as most regions were fairly accessible even from the first, practically all of the best lands were alienated from the Crown years ago, and the policy of alienation was not definitely abandoned until 1900. New Brunswick, on the other hand, possessed large areas of excellent timber in her hinterlands which were not called upon, owing to the abundance of accessible supplies to be had adjacent to and in the lower reaches of her several large rivers, and as early as 1880 the policy of alienation was abandoned.

In the control of Forest policy, therefore, New Brunswick is in a relatively strong position, being able to enforce cutting restrictions on a large portion of her timbered area, and may share in any increments of forest wealth through stumpage rates. Nova Scotia exercises direct control over a relatively small and unimportant area, and her participation in any increased value of her forest area must be through land and other direct taxes outside of stumpage dues.

CONCENTRATION OF HOLDINGS

Of recent years there has been going on a process of concentration of holdings; due, no doubt, in no small degree to the growing importance of the manufacture of pulp and paper. Examination of the holdings, therefore, in both Provinces is of interest.

In Nova Scotia, 48% of the privately owned forest area, or 5928 square miles, is held in lots of one thousand acres and upwards;¹⁸ of this about 17% is held by individuals. In discussing the question of ownership it has been pointed out that of the 83% of privately owned land controlled by companies and corporations about 29% is under foreign control, chiefly American, and 78% of this is owned by three firms which do not produce pulp within the Province.

In New Brunswick, 40.05%, or 4323 square miles of the privately owned

land is held in lots of one thousand acres and upwards, and of this about 95% is controlled by companies or corporations.¹⁹ In New Brunswick, as in Nova Scotia, a fairly large share of the privately owned lands is held outside of Canada, chiefly by citizens of the United States; approximately 30% of all the private holdings over one thousand acres being so held. It is interesting to note in passing that 2575 square miles, or 54% of the private holdings over one thousand acres, is in the hands of the New Brunswick Railway Company; although it has been rumored on several occasions that sale of this has taken place to the International Pulp & Paper Company²⁰.

These private holdings of less than one thousand acres do not lend themselves to nearly so thorough an examination as do the larger holdings; but it is reasonable to suppose that most of them are in the hands of residents of the Province; that they are for the most part near centres of population; and, on this account, rather heavily culled. The larger holdings, therefore, possessing the best of the timber of the Province, are of more importance in this analysis.

The 10,700 square miles of forest land under lease in New Brunswick are held under 247 Leases, of which 213, or 86%, are leases covering less than fifty square miles and account for but 12.89% of the total area²¹. The balance, 87.11%, is accounted for as follows:

12	Leases cover	50 to 100	Square Miles		
10	" "	100 to 250	" "	"	"
6	" "	250 to 500	" "	"	"
4	" "	500 to 750	" "	"	"
2	" "	slightly over 1000 Square Miles			

These figures in themselves show a very marked concentration in relatively few hands; but subsidiaries of various companies hold leases in their own names, and, again, other leases are shown as being in the names of Banks and Trust Companies. After careful examination of the available data, an estimate is given in an unpublished thesis at the University of Toronto of 70% for the proportion of leased lands being held by "International" and "Fraser's", directly and indirectly.

Since such a large percentage of the privately owned lands of one thousand acres or over is in the hands of corporations, it can be readily appreciated that a relatively few large firms dominate the situation in respect to Lumber and Pulpwood in New Brunswick. Their influence in forest policy can scarcely help but be very considerable, and the closest co-operation between "Fraser's", "International", and the Government, is not only desirable, but positively essential.

The considerable amount of forest land held by foreign interests seems to act as a constant irritant to the people of both New Brunswick and Nova Scotia; and there may be a danger, as suggested by Professor Fay²², lest the best utilization of the resources of the Provinces be hindered owing to large

blocks of timber being held as reserves by those who have no other stake, and, therefore, little interest in the country.

LUMBER TRANSITION WITHIN THE INDUSTRY

The early Lumber industry of the Maritime Provinces was built upon their Pine Forests and was inextricably bound up with wooden shipbuilding. For the most part the White Pine was hewn into square timbers and shipped principally to England; Nova Scotia had a considerable trade with the West Indies, where Lumber followed in the wake of the Codfish. As the larger and more accessible trees were exhausted, smaller dimensions were utilized, and the square timber gradually gave place to sawn lumber of smaller size.

The growing demand of the American market, with the gradual exhaustion of their own resources, led to an increasing dependence upon the Maritimes. New Brunswick was most favorably situated to handle this trade; for with her large rivers she was able to concentrate her production in mills of considerable capacity, which were best suited to cater to a market supplied by ever-increasing quantities of the more highly finished commodity. As the industry moved farther north, and especially on the Saint John River, farther inland, following the retreating timber supplies, greater dependence upon railway transportation was inevitable; and this in turn hastened the switch from the crudely sawn to a more highly finished product. The larger mills, with greater capacity, and ability to produce more variety, along with better utilization of otherwise waste products, were given additional support in this transition by stronger financial backing. Nova Scotia, owing to her topography, was doomed to content herself with smaller units; and, as would be expected, we find there a technique not nearly so well developed as one discovers in the mills of New Brunswick. Interaction of technique and markets is seen in the fact that the United States is now New Brunswick's largest customer, whereas perhaps some 60% of the production of Nova Scotia still finds its way to Great Britain.

A table in the *The Lumber Industry, Census of Industry*, Ottawa, 1927, classifying the mills according to production, brings out in bold relief the difference in size of producing units in the two Provinces. In Nova Scotia, the largest category is from 1,000,000 to 5,000,000 feet; whereas in New Brunswick, two mills are listed as producing from 15,000,000 to 20,000,000 Feet. Nova Scotia has thirty-three mills in the former category, while New Brunswick accounts for over forty. In addition to this, the latter has sixteen mills producing from 5,000,000 to 10,000,000 feet, five producing from 10,000,000 to 15,000,000 Feet, and, as stated above, two producing from 15,000,000 to 20,000,000 feet.

THE PULP AND PAPER INDUSTRY

The rapid rise in the newsprint industry, coupled with the decline in the size of timber and the ever-increasing competition both in the British and

American markets, had the inevitable effect of diverting larger supplies from Lumber to the Paper industry. At first pulpwood was exported, followed by the manufacture of groundwood pulp, and later, in New Brunswick, by sulphite pulp, which found its chief market outside of Canada. The fillip given to the building industry in early post war years made the lumber industry in Nova Scotia and New Brunswick exceptionally profitable. Following the peak of 1920, however, severe depression set in, accompanied by the closing down of many mills. In New Brunswick this gave an opportunity to those interested in pulp and paper manufacture to secure large holdings; and a goodly number of these mills were definitely abandoned, and not a few dismantled. Paper mills followed and the dwindling revenues of the Province were for a time revived.

The present position of the Paper industry is not one which even optimists gloat over; but with the location of mills at tide-water, and a reasonably large supply of raw material at hand, the turn-over from Lumber to Pulp and Paper seems to have been profitable, and promises to be more advantageous when the paper market recovers. Even at the present time, the Mersey Mill, with its cheap water transportation, seems to have a definite advantage in its competition for markets. One definite benefit which comes with the pulp and paper industry is the decided lessening in seasonal operations so characteristic of lumber production.

The menace of Russia in the Pulpwood market does not promise to be of long duration²³, but she will certainly continue to supply large quantities of lumber to European countries; and the Pacific Coast, with its abundant supply of large and cheaply milled timber, and ready access to Atlantic Coast markets through the Panama Canal, will permit of nothing but stiff competition for the lumber industry of the Maritimes, both at home and abroad.

That paper should completely replace lumber in the forest industries of these Provinces is neither desirable nor likely, but it does seem that a better utilization of forest reserves will be possible if a proper balance can be struck between the two. When lumber and pulp mills are operated in the same neighborhood, waste from the former might be used, as indeed it has been used, as fuel for the latter; and in time it may prove economical to utilize slabs from the saw mill in the manufacture of pulp. At the present time the difficulty encountered here is in the large amount of bark left on the slabs; but the possibility of rossing the logs before they are sawn, which will leave the slabs ready for the grinders, is a speculation worthy of consideration.

HARDWOOD

The Pulp and Paper industry in New Brunswick, where the timber lands are held in large leases, or possessed outright in large blocks, has an especial significance in regard to the Hardwood forests. It has been mentioned that of the total forest resources, Hardwood constitutes 36.20% in New Brunswick, and 43.23% in Nova Scotia; while in Saw materials the deciduous

varieties account for 40.20% and 31.77% respectively. This is not significant in itself, but when it is appreciated that over a period of some sixteen years, of the total production of lumber, Hardwood was responsible for only 2.3% in New Brunswick, and 8.18% in Nova Scotia, it becomes obvious that a problem of Hardwood utilization faces both Provinces. The problem is complicated further by the distribution of the deciduous varieties, as will be seen from the following table:

TYPE DISTRIBUTION

	<i>New Brunswick</i>	<i>Nova Scotia</i>
Hardwood Forest (Containing not more than 10% Softwood).....	3.89%	6.5%
Mixed Hardwood and Softwood.....	41.33%	73.0%
Softwood Forest (Containing not more than 10% Hardwood).....	54.78%	20.5%
	<hr/> 100.00%	<hr/> 100.0%

The figures for New Brunswick are adapted from the report of the forest survey of about 60% of the Crown lands of the Province²⁴, conducted between the years 1916 and 1923, and it is possible, therefore, that owing to more severe culling of privately owned limits, the percentage of Mixed Forests will be somewhat higher. The Nova Scotia figures²⁵, being of an earlier date, would no doubt be subject to some correction. But, whatever, the degree of alteration necessary, the fact that a large stand of the Hardwood forests is to be found with Softwood is quite obvious.

The significance of the Pulp and Paper industry in this regard is to be found in the fact that the great bulk of the raw materials which it uses is in the Softwood species; Poplar is used in the manufacture of pulp for an export market, but the dominant hardwoods, Birch and Maple, find no place among the raw materials at the pulp mill. Firms carrying on both Lumber and Pulp and Paper industries, such as "Fraser's", will no doubt utilize more of the hardwoods in the future; but unless "International" develops a Hardwood industry, it will be necessary for them to permit other operators to cut hardwood on their limits, or a large portion of the New Brunswick forests will remain unutilized and the Government will suffer by reason of the loss of stumpage dues. If outside interests are permitted to operate upon the holdings of paper mills, it may be at a charge that will hold profits to the minimum and thereby hamper development. Perhaps it would be possible, in the renewal of leases, for the Government to come to some understanding with the interests in the newsprint industry whereby a fuller utilization of all forest resources might be realized. By keeping down the stumpage dues upon Crown lands, the Government may ultimately reap a larger revenue from its hardwood forests.

The Maritimes are primarily a softwood area, for, although the proportion of the forests made up of hardwoods is rather considerable, these varie-

ties find very severe competition from areas farther south, where the wood is better and more accessible. It has been suggested²⁶, therefore, that it would be profitable to utilize the hardwood forests with little or no remuneration to the Governments, and to take steps to prevent their regeneration; leaving the forest lands to the conifers, and, therefore, the species to which this region is most suited.

But there are other problems connected with hardwood manufacture besides those of competition and the pulp and paper industry which differentiate it from the manufacture of softwoods. The deciduous trees do not float so readily as do the softwoods, become water-logged and sink in a relatively short time; and it was necessary, therefore, to wait for the coming of railways before much exploitation could be undertaken. In both Provinces hardwood is manufactured in small mills, chiefly in the Winter, and depends almost entirely upon rail transportation. The mills are placed close to the sources of supply and the finished product transported by rail either to seaboard or to its final destination. As railways extend, therefore, the hardwood industry develops, and here, especially in Nova Scotia, might be found some hope for further utilization in the near future. Although it is scarcely feasible to undertake railway extensions primarily for the purpose of tapping hardwood forests; yet, where pulpwood is to be had as well, and when there is a possibility of other developments following, the joint products might make new branch lines profitable. In this way the development of the pulp and paper industry, by creating a demand for pulpwood, might assist on one hand in a more complete exploitation of the hardwood resources.

HARDWOOD UTILIZATION AND OUTLETS

Hardwood production is confined largely to three varieties: White Birch, Yellow Birch, and Maple. White Birch finds its outlet in spool wood manufacture, which is shipped to Great Britain; Yellow Birch is used in building, automobile manufacture, furniture making, and of late years the airplane industry in Great Britain has taken appreciable quantities; Maple is used chiefly in the building industry, but meets with very severe competition. Large quantities of Birch shipped to England are utilized in the tinplate industry, but here Continental Beech promises to be a strong competitor and may replace a considerable proportion. The English market does not take Birch flooring; and while it may be hoped that through exhibitions and other media of advertising, a market for this product might be eventually found there, in the meanwhile fuller advantage might be taken of the demand for Maple. Wisconsin ships fair quantities to England via Montreal, and New Brunswick ought to secure much of this trade.

HARDWOOD—MARKETING ORGANIZATION

No doubt the Hardwood industry has been hampered to some considerable extent by the method of marketing. The same Brokers that look after

the disposition of softwoods handle the marketing of hardwoods; perhaps this is due to the small production in the past, and is undoubtedly linked up with the old methods of shipping. Hardwood was formerly shipped as "stiffening" to a cargo of softwood, it being possible to send as much as 30% hardwood at the same rate as softwood; but with the falling off in shipments from the smaller ports, hardwoods found their outlets chiefly through Saint John and Halifax, being forwarded in small quantities and mainly on liners. Of late, several American brokerage firms have put in an appearance in New Brunswick, and some shipments are being made through Montreal houses; and this may be the beginning of greater specialization in marketing organization, which will give to the hardwood industry the careful attention it has heretofore lacked.

JOINT PRODUCTS AND INTER-RELATED INDUSTRIES

HARDWOOD: Owing to the variety of uses for Hardwood, considerable differentiation in manufacture is permitted: hearts may be used for ties, the better portion of the trees for lumber, and small dimensions may be used in the manufacture of shims or shipped out for other small wood manufacture. This differentiation in production is further assisted by the peculiar requirements of a particular market. The demand in Great Britain for Birch is largely for box manufacture, whereas in the United States it is used extensively in the building trade; therefore, it is possible to ship overseas a poorer quality product, while the better grades and more highly finished material find a ready market in the south. Often, too, ties are manufactured for local consumption, while tie sidings are sold in England. At present small dimensions do not seem to permit of profitable manufacture unless the raw material is considered as waste; but in the near future it might be expected that pure small dimension manufacture will develop in Canada, affording a remunerative outlet for that material, much of which now goes to waste.

Various industries provide a considerable outlet in the local market and it should be endeavored to increase both the range and variety wherever possible. The building industry, of course, is especially important, creating a demand for hardwood flooring and finishing. The Fish business demands hardwood barrels, and a considerable amount is still used for molasses puncheons in the West Indian trade. Railways consume large quantities in the form of ties, and undoubtedly the two Creosoting plants, one at Truro, N. S., the other at Newcastle, N. B., are responsible in no small degree for the recent increase in hardwood production. A few firms manufacture furniture, but those engaged in this industry in New Brunswick confine their operations almost entirely to church, school, and office equipment; while the several firms in Nova Scotia find competition from the Upper Canadian producers very keen. The sports goods, especially skis, have formed the basis of several successful enterprises, and hand sleighs and rocking horses have made their contribution to the hardwood industry. The J. Lewis & Sons Company seem

to have built up a good industry on Pegwood and Shoe shanks, and Handles of various kinds have helped to swell the income of many firms. In this respect it might be pointed out that the T. S. Simms Company, Limited, consumes about 500,000 Board feet of hardwood annually; and that Canada imports in the neighborhood of One-half Million Dollars worth of Handles every year.

THE FUTURE OF THE HARDWOOD INDUSTRY

Suggestions have been made from time to time as this discussion has proceeded indicating various ways in which the industry might be improved. In any general scheme of development it ought to be kept well in mind that the chief advantages are to be gained from the production of highly finished and specialized products. A large list of commodities, the production of which might be undertaken or extended, could be given, but, as such a list may be readily obtained, it will be sufficient to point out the general line which future development ought to follow:—

Special attention should be given to requirements of the Maritime market and to the Canadian market in general; the possibilities of eventually reaching Western Canada via Hudson Bay should not be overlooked; and there may be considerable opportunities in the West Indies and British Columbia. If a study were made of the ultimate use to which the materials are put which are shipped raw from the Provinces, it might be discovered that a considerable amount of the finished materials could be manufactured before shipping. There may be, for example, many opportunities for locally produced Veneer for outside markets, especially England; but the whole question would have to be thoroughly examined and account taken of such factors as the efficiency of production units, tariffs, volume, etc.

Marketing difficulties for an industry comprised of many small units and producing a variety of commodities always appear; but such difficulties are not peculiar to the hardwood industry of the Maritimes and attention will be given to this general problem later on.

Technique in production is, perhaps, the most important factor, and no effort should be spared to equip mills with the best machinery and to become acquainted with the most up-to-date and economical processes. Such information is available to the manufacturers through many channels and it is not intended to deal with details here. What is more, the question is fully discussed in a work by Charles H. Jones, B. Comm., entitled *The Lumber Industry in New Brunswick and Nova Scotia* (Univeristy of Toronto, 1930), which will soon be made available to the public.

JOINT PRODUCTS AND INTER-RELATED INDUSTRIES

SOFTWOOD: With Softwood, joint products and differential production for various markets have been carried farther than with Hardwood. Large sizes and unfinished materials find their way to the British market, while more

highly finished products are sold in the United States. Laths form a joint product and permit of considerable variation, while trimmer ends are made up into box shooks or shipped to box shook factories. Again, with Softwood as with Hardwood, local industries play an important part. Building of almost every kind is of considerable importance; the fishing industry takes appreciable quantities in the form of boxes, as indeed, do the other industries requiring wooden containers. The apple and potato trade requires a large number of barrels, although the recent practice of shipping the latter product in sacks is lessening the demand in this field. Last, but not least, ship-building, which for years dominated the industrial life of the Maritimes, still requires considerable quantities. Especially is this true in the region of Shelburne and Lunenburg, where most of the lumber used is of local production, and where many of the ships launched are constructed one hundred per cent out of local timber.

THE FUTURE OF THE SOFTWOOD INDUSTRY

The same may be said regarding technique in the Softwood industry as was stated regarding Hardwood, with the exception that Nova Scotia has more leeway to make up and will encounter greater difficulties owing to the size of her mills. The highest utilization of by-products is necessary in order to cut overhead to a minimum, but marketing problems are not so difficult as in the case of hardwood. A general revival in business, with consequent stimulation to building, is what is needed most of all; and if projected mergers²⁷ in British Columbia come to fruition much of the pressure upon the markets in the Atlantic States will be relieved. A thorough market survey would undoubtedly reveal many new outlets, and, were there closer co-operation within the industry, a recommendation to this effect would be quite in order; but the absence of any strong organization supported by and representative of the industry as a whole will not permit of such a recommendation being acted upon, and the Governments of each of the Provinces are too heavily burdened with financial responsibilities to be expected to carry through a comprehensive market survey. A way out may be found through a suggestion which appears farther on and which affects all the major industries of the Maritimes.

CHAPTER III

The Mining Industry

Mining in the Maritimes has been confined to the Provinces of Nova Scotia and New Brunswick. Certain developments of the Clay deposits of Prince Edward Island have taken place near Richmond, but the undertaking did not prove profitable and the plant was taken over by the Government in 1921²⁸. Of recent years no mention has been made of these operations in the Annual Reports, and the plant seems either to have been abandoned or to have been handed over to private enterprise.

NOVA SCOTIA

In 1927, of the total value of all production in Nova Scotia, 22.7% came from the mines, most of which was accounted for by the production of Coal.²⁹ Gold and Gypsum, however, made their contributions, and a considerable amount of interest has been shown in prospecting for other minerals in paying quantities. Revision of the Mining Laws has been undertaken³⁰, and the Department of Mines has prepared reports of various mineral deposits in the Province, that the available information concerning these might be most accessible to those interested. Research work has been undertaken with a view to discovering new developments, especially in the field of Oil Shales and Anhydrite³¹.

NEW BRUNSWICK

Mining in New Brunswick has never played anything like the important role that it has in Nova Scotia. Of the total value of production in 1927³², the products of the mines contributed 2.4% as contrasted with 22.7% for Nova Scotia. Coal, Gypsum, Gas and Oil made up most of this output, but recent activities in prospecting have given both hope and promise of greater development in the future. In 1927 the Mining Laws of the Province were completely overhauled and brought up to date³³. In 1929 a Provincial Mineralogist in the person of Dr. W. J. Wright was appointed³⁴; and in the same year the new Provincial Building at the University of New Brunswick was constructed, providing additional facilities for work upon Forestry and Geology. Such activities on the part of the Government augur well for increased interest in mining in New Brunswick.

COAL

The position Coal Mining holds in the economy of Nova Scotia, and the difficulties which the industry has been facing, makes this a subject of exceptional interest which will receive special attention later on.

GYPSUM

The mining of Gypsum has a long history in both Nova Scotia and New Brunswick, but in the former Province it has proved of much greater importance since approximately eighty per cent of the total production of Canada is mined there.³⁵ The reason for this is found in the exceptionally large deposits and the proximity to extensive markets in the Eastern United States. Unfortunately, owing to the United States tariff, practically all of the gypsum mined is shipped out in crude form, only a fraction over one per cent being calcined in the Province.³⁶ Production is carried on close to points of shipment, and practically all the capital invested is from the United States; only one firm, Iona Gypsum Products, Limited, being financed entirely within Canada.³⁷

Although in New Brunswick the production of Gypsum is less than 10% of that of Nova Scotia, less than 40% is exported as raw material, the balance being calcined in the Province. The Albert Manufacturing Company of Hillsborough has as a market for its products not only all Canada, but New England points as well. This notwithstanding an adverse tariff on the manufactured product.³⁸ In addition there is a valuable export of finishing plasters to New Zealand, and, in a lesser degree, to Australia, South Africa and the West Indies.

Considering that the exports from New Brunswick are shipped via Montreal in the summer, and Halifax in the winter, there is a strong suggestion that were not Nova Scotia interests almost entirely concentrated in the United States, a considerable export business in the calcined product ought to permit of development. So far as increasing the manufacture of the raw material into calcined form is concerned, it would appear that a Canadian market should be the first consideration and greater use might be made of water transportation to Montreal.

GOLD AND SILVER

Up to the present, Dominion records give no account of Gold or Silver production in New Brunswick;³⁹ but Nova Scotia has produced a small amount of Silver and since 1862 there has been a continuous production of Gold, with decided fluctuations in output.⁴⁰ The highest production of Gold recorded in the Nova Scotia Provincial Reports is in 1898 when the output reached 31,112 oz. and in 1921 the lowest point was reached with only 378 oz. The increasing interest in Gold Mining in Nova Scotia following 1923 was the result of the heavy demand for Arsenic, which is found associated with

Gold in the form of Arsenical Pyrites, but, unfortunately, all the Arsenical Concentrates thus far produced have had to be shipped out of the Province for treatment.⁴¹

Insufficient capital, the belief that the Gold deposits were to be found only in scattered pockets; coupled with the fact that claims were small and did not permit of the sinking of any large amount of money in equipment, resulting in practically no attempt to save the pyrites and fine Gold;⁴² these are the chief factors which have retarded Gold Mining in Nova Scotia. The revision of the Mining Laws in 1927, requiring that no less than twenty claims be acquired in each block, the better understanding which has been and is being gained of the Gold measures, and improved and more economical methods of extracting the metal; are considerations which are responsible for the belief that this branch of mining will come into its own in the near future.

The Provincial Department of Mines has made available information regarding the various fields in the form of small pamphlets which summarize the information contained in the Reports of the Department, and valuable information is also to be had from *Gold Fields in Nova Scotia*, by W. Malcolm, published by the Department of Mines, Ottawa.

OIL SHALES

The extensive deposits of Oil Shales in both Nova Scotia and New Brunswick have not been worked to any great extent for some time owing to the stiff competition with Crude Petroleum, and Prof. A. E. Flynn, of the Nova Scotia Technical College, Halifax, has summed up the situation in the following words:⁴³

"The present economic situation in the petroleum industry is such that some time must elapse before shale becomes a factor in the oil business. No one doubts, however, that in the future shale will largely supplant crude petroleum as a source of heat, power, and lubrication. This transition will necessarily be gradual."

A small plant has been operating in New Brunswick for a few years, but it does not appear to have been a financial success.

SALT

The Malagash Salt fields in Cumberland County, Nova Scotia, were discovered in 1917 and considerable development has taken place since that time. Large quantities of Salt used in the Fish trade make these operations of considerable importance to the Maritimes.⁴⁴ Extensive beds of rock salt have been also located in New Brunswick.

GRANITE

A number of Granite quarries are to be found in both Nova Scotia and New Brunswick, and the development of this industry seems to depend almost entirely upon increasing demand. New Brunswick produces a monu-

mental stone in its red granite, and formerly supplied considerable quantities of black granite, which has recently fallen into disfavor for monumental purposes.⁴⁵

MARBLE AND SILICA

The Marble of Nova Scotia has found its chief outlet as a flux in the Steel mills of Sydney, and the Steel industry is also responsible for the production of Silica in this Province.⁴⁶

LIMESTONE

This is found in both Provinces and the increasing recognition of its value as a fertilizer is adding to its importance.⁴⁷

GRINDSTONES AND PULPSTONES

These stones have been produced in Nova Scotia and New Brunswick for many years, but the report of the Department of Mines for the former Province does not mention any production of Grindstones since 1927, and Pulpstones are included under the general heading of "Sandstones".⁴⁸ New Brunswick, however, still continues to produce a small amount and of recent years has found a fairly remunerative outlet for its Quartz Sandstones through the Pulp and Paper industry, where they are used in reducing the wood to pulp.

CLAYS

Clays of various kinds form the basis for a number of industries throughout Nova Scotia and New Brunswick. Pottery, Brick and Tile, and Sewer Piper, are now being manufactured, and recently a plant has been started at Chipman, N. B., to utilize the shale produced as a by-product in the mining of coal.⁴⁹

A number of minerals have been mined in the past, some of which are:

Manganese, Tungsten, Copper, Antimony, Barytes, and the considerable amount of prospecting work which is being done at the present time will undoubtedly bring at least some of these minerals back upon the market in the near future.⁵⁰

SLATE

This is found in both Provinces and there has been a fair amount produced in the past, especially in Nova Scotia. Perhaps the relatively poor demand which hampers prospecting and makes investments risky when the quality of the product is not well known, is chiefly responsible for the small amount of work that has been done in this field.⁵¹

The following minerals give promise of future production:

LEAD AND ZINC

The geological formation of the Maritime Provinces suggests that Lead and Zinc will eventually be counted among the minerals of these parts.⁵²

Tinstone has been discovered in Nova Scotia and no difficulty will be experienced in locating markets should deposits of any appreciable extent be located.⁵³ Nova Scotia also has a fairly extensive deposit of *Molybdenum*, but Quebec is the only Province in Canada where this mineral is produced.⁵⁴ *Talc* and *Soapstone* are also among the mineral deposits of Nova Scotia which hold a promise of future development.⁵⁵

When the geological survey of New Brunswick and Prince Edward Island as recommended by the Royal Commission on Maritime Claims, 1926, is completed, it will be possible to proceed with prospecting in a more systematic manner than heretofore;⁵⁶ and the Provincial Governments in taking the steps mentioned above seem definitely to be moving in the right direction. There is certainly no small amount of hope in the Maritimes respecting future development in mining, but so much depends upon the mineralogist and the prospector, as well as upon market conditions, that prophecy is not only dangerous, but useless.

CHAPTER IV.

The Coal Industry of the Province of Nova Scotia

GENERAL SITUATION

The problems of the Nova Scotia Coal industry arise not only from local conditions, but also from world-wide changes which have been taking place in fuel production of recent years. From the time of the introduction of steam until 1913, the output of coal increased yearly with a marked degree of regularity; but the production in that year reached a peak which was not exceeded until 1929, when the output was 4.19% greater than in the former year.⁵⁷ The use of Oil and Gas as fuels was well established before the War, as was also the development of Electricity from water power; but during the days of hostilities the use of these fuels was greatly extended and they have now become very serious competitors with Coal. The same forces which stimulated the use of Oil, Gas and Hydro power, also brought about marked economies in the utilization of Coal itself, and it is claimed that in the past few years there has been a saving of some twenty per cent of Coal used in steam stations;⁵⁸ and, as if this competition were not enough, there is the additional factor of expanded capacity on the part of most coal producing areas. This expanded capacity is largely the product of War and post-war conditions, and is seen most clearly in the United States, where at the present time the productive capacity of the Bituminous mines is some 300,000,000 tons greater than the supply demanded.⁵⁹

It is difficult to ascertain the world's resources of Oil, and the many prognostications of impending shortage have been usually answered by increase in production. In spite of this, however, it does seem the day will surely come when the world will depend almost entirely upon coal and hydro electric power for the energy it consumes; but for the present, and at least some time into the future, the competition for coal producers is bound to be very keen and their problems numerous and difficult to solve.

THE UNITED STATES

So far as the United States is concerned, perhaps the most significant developments of recent years for the Coal industry have been the expansion in the mining areas of West Virginia, Kentucky and Alabama, and the extensive use of Oil as a substitute for Coal. The shifting of the centre of Coal mining operations from the Northern to the Southern States has had far-reaching consequence. The new mines, with large resources, easily acces-

sible, and mined under non-union conditions, have caused no small amount of concern to the northern producers. These conditions in the United States have had their influence upon the Nova Scotia situation in so far as they have meant keener competition in the Canadian market.

CANADIAN SITUATION

The situation in Canada is somewhat of an anomaly. Here we find a country with one-sixth of the world's resources of Coal, surpassed in this by only one nation, the United States of America, yet importing on an average more coal for local consumption than it produces.⁶⁰ The situation is due to the distribution of the coal reserves of Canada. These are located in the extreme East and far West, leaving a stretch of some three thousand miles without coal, or, at least, without coal that will stand shipping any considerable distance. In the centre of this vast stretch of country is located the heart of Canadian industry, and over sixty per cent of her population; and, as if in mockery of international boundary lines, this coalless section, which has become known as the "Acute Fuel Area" is thrust southwards within fairly easy reach of the American coal fields.⁶¹ Some eighty-six per cent of Canada's coal is located in Alberta, Saskatchewan possesses considerable quantities but it is of the lignite variety, and there is little or no more until we reach the Maritimes. New Brunswick has a few thin seams, but the quantity is not great and the cost of production rather high. It is to Nova Scotia then that the Dominion looks for a supply of coal for the eastern markets.

The dependence of Central Canada upon the United States for coal is well illustrated by the figures for 1929. In that year there were imported from the United States 14,469,831 tons of Bituminous, of which 12,574,348 tons went to Central Canada; viz, 11,332,168 tons to Central Ontario and 1,242,180 tons to Quebec.⁶²

The figures for Anthracite tell the same story and we find there that Central Canada imported 3,033,532 tons: Central Ontario 2,202,236 tons and Quebec 831,296 tons, out of the total imports of 3,173,043 tons.

Indeed, out of the total imports of Anthracite and Bituminous from the United States, this Acute Fuel Area secured 88.47%.

The immense amount of water power available throughout Ontario and Quebec has helped considerably in the solution of the fuel problem of this area, but it has not been possible to completely replace coal; and, so far as domestic heating is concerned, electricity still seems to be relatively expensive, which is the more regrettable because it has been in the realm of domestic fuel that Canada has met with most of her difficulties so far as securing a supply is concerned. Although American reserves of coal are as nearly inexhaustible as such reserves can be, this holds true only when we speak of coal in general; for the Anthracite fields are given a life of but from eighty to one hundred years, and increasing cost of production, with lowered quality, has already become very marked.⁶³

A strike in the American Anthracite fields in 1922, with resulting embarrassment to Central Canada, was the immediate cause of the formation of the Dominion Fuel Board. The work done by this body has had many ramifications, but its chief concern has been to find substitutes for American Anthracite so that the Acute Fuel Area will no longer be entirely dependent upon a single source of supply, and in this it has been fairly successful. This has been achieved through the encouragement of By-Product Coking Plants, the use of American low volatile Bituminous coals, the use of gas, and the saving secured through the insulation of homes, etc.

The situation so far as the industrial field is concerned is not so pressing from the standpoint of supply, but there are many who believe that Canada, with her vast resources of fuel, should endeavor to make herself entirely independent of outside supplies. In response to this, the Fuel Board made an investigation of the possibilities of eliminating dependence upon the United States and securing all supplies within the British Empire. The results of this survey are shown in Bulletin No. 95 of the Board's publications — "*Memorandum Containing Data in regard to an All Canadian and British Fuel Supply*". In estimating the cost of securing this independence a figure of \$56,000,000 was arrived at. However, this figure, it was recognized, by no means represented the actual cost; as, owing to the necessity of moving large quantities of coal from Nova Scotia and Alberta, it is quite impossible for anyone but a transportation expert to give an estimate that is worth consideration. The figure adopted in this calculation for moving coal from Alberta to Ontario was \$7.00 per ton. Another figure in the calculation which is open to criticism is the limit of 10,000,000 tons per year placed upon the Nova Scotia mines. This limit arises out of a misunderstanding of a remark made by Mr. F. W. Gray, which he corrected in his presidential address before the Mining Society in 1928.⁶⁴ However, the figures do throw into bold relief the task which Canada would be setting herself were she to attempt to make herself completely independent of United States Coal.

The Ontario market, so far as Nova Scotia is concerned, has been practically untouched; but in Quebec the Cape Breton coal has a fairly secure footing, where it is enabled to compete with American fuels owing to water transportation up the St. Lawrence. Although markets and marketing problems will be fully discussed later on, it might be pointed out here that Quebec takes upwards of fifty per cent of the product of Nova Scotia mines. The figures for 1929 will illustrate fairly well the place that Nova Scotia coal holds in the Province of Quebec:

SHIPMENTS INTO PROVINCE OF QUEBEC—1929

<i>From:</i> ⁶⁵	<i>Anthracite</i> (Short Tons)	<i>Bituminous</i>
Great Britain.....	598,784	92,941
United States.....	831,296	1,242,180
Other Countries.....	99,006	76
*Other Provinces (less amount exported).....		2,372,411
	<u>1,529,086</u>	<u>3,707,608</u>

*This may be taken to represent Nova Scotia coal as the shipments from New Brunswick are very light—being given as 215 tons for 1929.

These figures show that in 1929 out of a total of 5,236,694 tons of coal made available for consumption in the Province of Quebec, 43.30% came from Nova Scotia; but as this total includes Anthracite, which comes into competition with Nova Scotia coal only indirectly, the more significant proportion is that which Nova Scotia coals bear to the total imports of Bituminous; viz,

	Tons
Total Bituminous available for consumption in Quebec.....	3,707,608
Total Bituminous received from Nova Scotia.....	2,372,411
or 64%.	

SITUATION IN THE NOVA SCOTIA FIELD

Before discussing markets and marketing, it will be advisable to secure an appreciation of the local conditions having a bearing upon the mining of coal in Nova Scotia. To begin with, over fifty per cent of the coal mined in Nova Scotia comes from under the sea, which is an important factor in regard to cost of production.⁶⁶ Under-sea mining necessitates increasingly long haulage from the face of the coal to the pit mouth accordingly as mining proceeds seaward. This long haulage, necessitating heavy capital expenditure and involving a considerable amount of time on the part of the workers going to and from their work, adds greatly to the cost of placing the coal at the mouth of the pit. In the land mines of Nova Scotia, the coal for the most part comes from seams which dip fairly abruptly and which are often badly faulted. This means that mines run to considerable depth in a relatively short time; making the lifting of coal expensive and increasing the cost by expenses involved in ventilation and keeping the mines free from water. All these circumstances combine to make the competitive position of the Nova Scotia producers an unenviable one. Four Counties in Nova Scotia: Cape Breton, Inverness, Pictou and Cumberland, are reported as producing coal; but of the total amount raised Cape Breton is responsible for over 75%.⁶⁷ Taking this into consideration, and also the fact that over one-half the coal raised is sub-marine, the emphasis placed upon the situation in Cape Breton Island, and on under-sea mining, will be fully appreciated.

The cost of raising a ton of coal in Nova Scotia in 1926 is placed by

Mr. F. W. Gray at \$3.60, and, of this amount, some 70% is accounted for in wages; which suggests that it will be chiefly through mechanization that costs will be reduced.⁶⁸ That mechanization has not proceeded more rapidly may in part be attributed to the unsatisfactory conditions which have prevailed in the coal mining industry of recent years; but back of this there seems to have been another factor, the product of a mistaken policy on the part of the Nova Scotia Government. The leasing policy followed by the Government for under-sea coal mines was the same as that adopted for land mines, and led to many ridiculous situations.⁶⁹ It is related that in one particular case the lease line followed the shore for several miles, separating land and sea holdings.

Uncertainty always existing regarding the possibility of seaward expansion, it is not to be wondered at that heavy expenditures were not made on permanent shafts especially adapted to winning coal from under the sea. Not only did the situation prevent capital expenditure on permanent shafts, but it seemed chiefly responsible for conflicts among the various producers, and was unquestionably the prime factor in the amalgamations which finally culminated in the British Empire Steel Corporation.⁷⁰ No. 1B. Shaft was the outgrowth of these amalgamations, being the first fruits of the merger between the Nova Scotia Steel & Coal Company and the Dominion Coal Company.⁷¹ This shaft, which leads to coal seams that will last from one hundred and thirty to two hundred years, and which is equipped to handle coal most efficiently, is considered as a transition type in the change from shafts sunk primarily for land working and later extended under the sea, to that type which will eventually be developed exclusively for under-sea mining and with a view to pushing margins much farther seaward.

In their work the engineers have been hampered not only by the physical difficulties connected with under-sea mining, and by the difficulties arising from the leasing policy of the Government, but also by the lack of adequate geological data concerning the coal fields in the under-sea area.⁷² The maps with which they were obliged to work were dated 1873-1884. Although it will take time and a considerable amount of money to make available an up-to-date map, every effort should be made to make one available at as early a date as possible.

Although the leasing policy of the Government in the past has unquestionably interfered with mining development in Nova Scotia, and has, therefore, been a contributory factor to high cost of production, for the future it will cease to be of any considerable importance owing to the fact that the control over the Provincial coal fields is highly centralized—over eighty-five per cent of the production coming from mines controlled by the Dominion Steel and Coal Corporation.⁷³

The considerable dependence placed upon the St. Lawrence market has influenced coal mining operations in Nova Scotia in no small degree. The

St. Lawrence being frozen over in winter, and the long land haulage making winter shipments very costly, production has taken on a marked seasonal character. With the development of the Steel industry this seasonal characteristic was modified to a considerable degree as the Steel plant over a period of some thirty years took approximately 25% of the output of the mines;⁷⁴ but the rest of the local market was small and it was necessary either to close down most of the mines during the winter season or to resort to banking coal. The latter policy has been followed to a considerable extent, and with a measure of success, but the loss through slack coal and cost of banking has fairly well absorbed the savings brought about by the elimination of marked irregularity in production. As a means of illustrating the part that the banking of coal plays, figures for the years 1928 and 1929 showing the monthly production contrasted with what the monthly production would have been had there been no coal banked, and had sales remained the same, are given as follows:⁷⁵

Year—1928		Year—1929	
Output	Output, Less Put on Bank, Plus Lifted from Bank	Output	Output Less Put on Bank, Plus Lifted from Bank
Short Tons		Short Tons	
January.....	447,538	554,968	447,339
February.....	450,318	571,564	376,070
March.....	477,468	538,652	352,734
April.....	438,999	555,078	370,189
May.....	650,711	622,643	715,816
June.....	630,636	613,431	776,685
July.....	594,932	620,712	768,600
August.....	666,767	650,706	755,749
September.....	608,501	596,730	708,692
October.....	674,725	637,695	748,948
November.....	605,448	585,496	584,643
December.....	497,464	508,458	426,352

This seasonal fluctuation, in addition to adding to the cost of production, brings with it seasonal employment, always a hardship to those employed and to a community where such a condition obtains. Although, in keeping the cost of production to the minimum, an effort would have to be made to eliminate seasonal fluctuation, still it might be better to state that the mining operators in Nova Scotia are faced with two main problems; viz, lowering the cost of production and ironing out the seasonal fluctuation, rather than stating it as one problem even though the other is implicit. So far as the cost of production is an engineering problem, it must be left to the engineers to solve and we are assured that the conditions in the mines reflect creditably upon the efficiency of the engineering staff.⁷⁶

UNITED STATES MARKET

Turning now to the marketing aspect of the problem, figures of recent years show that most of the Nova Scotia coal is disposed of either in the Maritimes or in Quebec; a certain amount is shipped to Newfoundland, and occasionally shipments go to Europe, but these are not considerable and by no means regular. In the past the New England States have taken considerable quantities at odd times, but this market has now practically disappeared.⁷⁷ Indeed, with the rapid development which has taken place in the Southern coal fields of the United States, and the greatly expanded capacity of their mines, competition has become so keen that it is scarcely possible that Nova Scotia will be able to compete in the American market. The cost of production in the southern field is less than one dollar per ton, while in Pennsylvania it ranges around \$2.25 per ton; and, due to the lower cost of production, American coal is landed in the Maritimes themselves in competition with the local producers who are protected by a tariff of fifty cents per ton.⁷⁸

However, for the present, tariff or no tariff, the American market is out of the question for the Nova Scotia producers. Our attention, therefore, will be centred upon two markets—that of the St. Lawrence and that of the Maritime Provinces.

QUEBEC MARKET

It has been stated that the Quebec market takes upwards of fifty per cent of the coal sales of the Nova Scotia mines, and constitutes the most important market, even considering Nova Scotia itself. Percentages of total sales made in these two markets over a number of years are as follows:⁷⁹

	1913	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929
Local.....	40.12	48.06	39.46	36.22	38.44	40.07	44.40	36.33	31.26	32.51	33.39
Quebec	33.85	4.73	19.15	27.94	29.13	35.31	27.90	38.93	41.35	44.30	43.84

During the War, owing to the difficulties in securing labor, the commandeering of vessels in 1916, and the attractiveness of local and outside markets in the later years, the Quebec market was practically lost and a very severe struggle had to be undergone in order to regain it. The depreciated Canadian currency in early post war years gave the Nova Scotia producers some advantage over their American competitors in the New England market; but, as our dollar returned to par, not only was this advantage lost, but a corresponding advantage in the Canadian market was gained by the American producers, and the problem of internal readjustment was made more acute. However, a great deal of good work has been done and Nova Scotia coal again holds the premier position in the Bituminous markets of Quebec.

The difficulties connected with marketing coal in the Province of Quebec are not all the product of war years. As mentioned elsewhere, the St. Lawrence is frozen up during the winter months, which makes the market largely seasonal, and this gives rise to many difficulties. Perhaps the most

serious obstacle which has had to be contended with was, and possibly still is, the prejudice in favor of American coals. A few years before the War, perhaps not much before 1910, mechanical stokers began to appear in Eastern Canada. These were of American make and designed to use American coal. The Nova Scotia coal producers, not having catered particularly to such a market, were not familiar with specific requirements, and as a result, Nova Scotia coal fell into disfavor. In 1925, W. S. Wilson, A.M.E.I.C., and M. W. Booth, A.M.E.I.C., stated as follows:⁸⁰

" there are about a million tons of coal burnt annually among the larger industrial power plants throughout Eastern Canada every year, at least 75% of this being burnt mechanically. Of this amount, 20 per cent is or will be shortly burned in powdered fuel furnaces. It is a significant fact also that about 40 per cent of the plants included in the list given are at the present moment using imported American coal."

The dissatisfaction with Nova Scotia coal arose from apparent inability to get the same efficiency in its use as in the use of American coal; further, trouble was experienced with clinkers, and the reputation which the coal has always had for being especially subject to spontaneous combustion combined to lower its reputation still further. As suggested above, the Nova Scotia producers had not been accustomed to supplying this particular type of market and undoubtedly the grievance against the Nova Scotia coal was quite genuine. Nova Scotia, however, produces a great variety of coals and is placing on the market fuels that will satisfy all the requirements of mechanical stokers. On the question of efficiency, a great deal depends upon the type of equipment used; as is well illustrated by H. A. Hatfield in speaking of the work done by J. B. Porter, M.E.I.C., R. J. Durley, M.E.I.C., and others, and set forth in their report "*An Investigation of the Coals of Canada with reference to their Economic Qualities*",⁸¹ when he says:

"Table 8, on page 41 of that report, shows that the equivalent evaporation per pound as fired of the coals from this district averaged about 7.3 pounds. They used a Babcock and Wilcox boiler for their tests, which was set so that the front of the grates were 24 inches from the tubes. If a boiler set as high as the Babcock and Wilcox at the Nova Scotia Technical College, Halifax, had been used to test these coals, it is likely that the evaporation would have been at least two pounds greater per pound of coal fired."

It is necessary, therefore, as pointed out by Mr. Hatfield in the same article, to ascertain the relationship between types of furnaces and varieties of Nova Scotia coal in order that the trade be properly advised as to the right type of fuel to purchase.

The difficulty which has been experienced with Nova Scotia coal in re-

gard to clinkers has been largely due to the shipment of the wrong type of coal for some particular purpose; but it seems also that the difficulty is partly attributable to traditional criteria used as a basis for judging quality. For some time it has been generally held that a high sulphur content in coal meant a low fusing point for the ash, and this in turn meant clinkers. Coals whose ash fuses at over 2400 deg. F. (1316 deg. C) are known to give no objectionable clinkers, but below this level objectionable clinkers are likely to develop.⁸² This is important for Nova Scotia as there appears to be only one mine producing coal with an ash fusion point well over 2400 deg. F. Nevertheless, there are several mines in Nova Scotia producing coals which do not form objectionable clinkers. W. S. Wilson and M. W. Booth seem to have made it quite clear that there is no true correlation between sulphur content and low ash fusion point, and also that a low ash fusion point does not necessarily mean a coal that clinkers. In the same article the above writers maintain that sulphur is not the chief factor in spontaneous combustion, but that the physical characteristics of the pile are of major importance.

The problem of banking coal is of vital interest to the Nova Scotia operators. The seasonal nature of their operations demands that advantage be taken of every means possible to diminish this fluctuation. If the process be costly, however, and if the banked coal has characteristics not acceptable to the trade, the difficulties in providing regular work for the miners are bound to be very great. The importance of banking operations has been pointed out above, and now it will be necessary to discuss some of the difficulties:

One problem connected with banking coal is the cost involved, which for Nova Scotia is placed at 45c to 65c per ton.⁸³ As the cost at several large central power plants in the United States runs from 15c to 25c per ton, it is believed that with the installation of proper equipment the cost to the Nova Scotia producers could be cut to 30c per ton, or less.

There is a current prejudice against banked coal owing to the belief that once coal has been exposed to the atmosphere for a number of months it loses a considerable portion of its heating efficiency. Experiments carried on at the University of Illinois, and published in Bulletin No. 97, go to show that the loss in heat units, if any, is very slight; but that through the union of oxygen with the organic combustible and iron pyrites, the rate of combustion is changed, the coal giving up its heat units more slowly; which can be offset, if necessary, by increased drafts. Some of the operators in Montreal are preferring banked to run of mine coal, finding that they secure better service from banked coal in furnaces designed to burn the eastern American coals.

COKE

Following the discussion on problems arising out of the high sulphur content of Nova Scotia coals and the difficulties involved in banking, it might be most opportune to inquire as to what may be done in using Nova Scotia

coals in the production of Coke. The smoky nature of most of the Nova Scotia coals makes them undesirable as a domestic fuel, if anthracite, low volatile bituminous, or other forms of fuel are obtainable at reasonable rates. Coke, however, can compete with any of the other fuels both in respect to heating qualities and cleanliness; and, providing that the Nova Scotia coals are suitable for coking purposes, their utilization in this field would be of great assistance, since coal for coking purposes must be reduced to a fine state of division, and this would make the utilization of banked coal economically feasible. The objections raised to the coals of Nova Scotia for the manufacture of coke is that they are high in Sulphur. When the coal is to be utilized in a By-Product coking plant where the gas produced is for domestic consumption, the high percentage of sulphur is very objectionable; but it is claimed that, with modern methods of removing sulphur, coal could be used containing as much as 2.5%.⁸⁴ If, on the other hand, the gas is used for heating boilers in commercial plants, the sulphur content does not matter. What is true of Nova Scotia coals for domestic purposes is also true for the purpose of producing domestic coke; viz, that a variety of coals are raised from Nova Scotia mines possessing enough variation in chemical consistency to make available satisfactory fuels either through proper selection or by mixing.

The Fuel Board of Canada in its endeavor to find a solution for the domestic fuel problem of the acute fuel area has recommended the establishment of By-Product Coking plants at strategic points in the Provinces of Quebec and Ontario. The production of coke is limited by the market for the by-products, the chief of which is gas. Considering the available market for gas in Ontario and Quebec, it is estimated that by-product coking plants, using each year nearly two million tons of coal, could be economically operated; and that in the course of time as the market for by-products expanded, their operations could be considerably extended. Of this total of nearly two million tons, slightly over 600,000 tons of coal consumed are credited to the cities of Quebec and Montreal, and this market is of major concern to Nova Scotia owing to the present high cost of shipping coal to Ontario points.⁸⁵

As a measure of relief to the Canadian coal industry, and also as a means of aiding in the solution of the domestic fuel problem of Central Canada, the Government in 1927 passed "The Domestic Fuel Act" whereby a subsidy is provided of 4% or 5% (accordingly as the plant is operated by private or municipal enterprise) upon the capital investment, including cost of land, in a By-Product Coking plant, providing that 70% of the fuel used is mined in Canada. Provisions are made also for a graded scale of reduction as the Canadian coal falls below 70%, the subsidy completely disappearing when not more than one-half the coal used originates in Canada. Two plants using Nova Scotia coal have already taken advantage of this Act, one at Halifax and one at Quebec City; but in Montreal, although there is a By-Product Coking

plant, it does not appear that they are using over fifty per cent Canadian coal since they are receiving no assistance under this Act.

TRANSPORTATION

Regularity of production has ever been the crying need in the Nova Scotia coal industry; and recourse has been made to various expedencies to satisfy this want, among which has been lower freight rates to make it possible to move coal to the Quebec market when navigation on the St. Lawrence is closed. In 1924 the Federal Government voted Two Hundred Thousand Dollars as a subvention to Eastern coal moved to points in Ontario and Quebec where it came into competition with the American product.⁸⁶ By Order-in-Council, 1924, the payment upon coal trans-shipped from Quebec ports was to be one-fifth of a cent per ton mile, with a maximum of fifty cents per ton.⁸⁷ On through shipments the rate was to be the same for points west of Riviere du Loup. However, the vote was made too late in the season to be very effective and only 42,000 tons of Maritime coal were moved under these regulations. In 1928, following the Royal Commission on Maritime Claims, and considerable agitation, this subvention was renewed and enlarged. In 1926 the Board of Railway Commissioners had been ordered to investigate the cost of transporting coal wholly by rail from Nova Scotia and New Brunswick to Quebec and Ontario points;⁸⁸ and the renewal and extension in 1928 for a period of three years of the subvention of 1924 was for the purpose of aiding in ascertaining the cost of these rail movements, and also to assist in preventing winter unemployment in the mines.⁸⁹ The rates fixed for all-rail shipments were \$3.00 per ton from Nova Scotia and \$2.10 per ton from New Brunswick, moving to points in Quebec. One-fifth of a cent per ton mile was allowed on shipments conveyed to Quebec ports by vessel and further to destination by rail, the maximum payment on such shipments to be seventy-five cents per ton. Owing to the fact that the costs of transportation have not yet been ascertained, the above regulations have been renewed for another year, extending them until March 31st, 1932.⁹⁰

Agitation now comes for a maximum rate of \$2.00 per ton on coal moved from Nova Scotia to Quebec all-rail; and an increase in the present subvention from one-fifth to one-half cent per ton mile. Overhead cost seems to have been the chief basis of the argument up to the present for reduced rates, with a more recent introduction of claims based upon the need of the industry. The principle of taking into account overhead costs in fixing special rates is by no means new, neither is it an easy matter to discover what additional overhead will be involved in handling large amounts of special freight. The transportation of coal in train load lots may involve additional rolling stock, improved roadbeds, and perhaps increased facilities at various points.

The call for a thorough rate on coal furthered from Quebec ports by train grows out of the fact that coal which is water borne to Quebec is carried in vessels of too deep a draught to proceed farther than Montreal. If further

advantage is to be taken of water transportation, the coal must be loaded into smaller vessels, and this operation is rather costly. Savings might be effected by the use of the latest mechanical devices in these operations, but the conditions of navigation in the Upper St. Lawrence must always remain a handicap to the Nova Scotia industry in endeavoring to develop an enlarged market in Ontario—at least until the St. Lawrence Deep Waterway System is completed.

The \$3.00 rate for all-rail shipments from Nova Scotia to Quebec points seems destined to become the maximum rate irrespective of costs of transportation, nor is it likely that any Government in the near future will deem it expedient to reduce the subvention now paid on trans-shipments.

LOCAL MARKET

One significant feature of the Coal Industry of Nova Scotia which has been already mentioned, but which will stand repeating, is the relatively small proportion of the output taken by the local market. In the table of percentages quoted above, showing the sales of Nova Scotia coal upon the Quebec and local markets, it is noticeable that the Quebec market is the more important; and it might also be observed that of the last three years 1929 shows the highest percentage for the local market, 33.39%; but in considering the question it is necessary to understand just how much of each market is supplied from the one source in order to secure an appreciation of the possibility of expanding sales. Owing to the proximity of Nova Scotia to the other two Maritime Provinces, and to the fact that a large percentage of the coal used by each originates in Nova Scotia, it will be advisable to include them in our survey. The following table, which has been prepared from figures taken from *Coal Statistics of Canada* covering four years, 1926-7-8-9, shows the percentage of the average imports of Anthracite and Bituminous in relation to the average amount of coal made available for consumption in each of the Maritime Provinces, as well as for the three Provinces taken together.

SHORT TONS

	<i>Average Available For Consumption</i>	<i>Anthracite Av. Imports</i>	<i>%</i>	<i>Bituminous Av. Imports</i>	<i>%</i>
Nova Scotia.....	3,762,847	58,845	1.56	32,293	.86
New Brunswick.....	787,247	95,688	12.15	79,977	10.16
P. E. Island.....	94,028	5,828	6.20	4,932	5.25
Total					
Three Provinces.....	4,644,122	160,361		117,202	
		% to Total	3.45	% to Total	2.52

From these figures it can be seen that the room for expansion in the Maritimes in general is very limited. The Nova Scotia market is controlled almost exclusively by the local producers. The consumption in Prince Ed-

ward Island is very small, but here, again, Nova Scotia holds the most important position, although there is a small amount shipped in from New Brunswick. American Bituminous, however, does make some inroads into New Brunswick, but even if outside coals were driven out of this market, the difference it would make to Nova Scotia producers would be very small. New Brunswick, of course, produces coal, too, but only about 28% of the amount consumed, whereas Nova Scotia supplies in the neighborhood of 54%.

So far as the local market is concerned, therefore, it is a problem of developing industries which will consume more coal, and not of driving outside competitors from the field. This, of course, is not the concern of the coal industry only, but is part of the great general problem of the Maritimes; of capitalizing to the fullest degree upon all their natural assets and furthering their economic life to the point where it nets them the maximum of advantages. The recent five year contract with the Mersey Pulp & Paper Company for 45,000 tons of Coal per year, which it is stated might be increased to 85,000 tons, is significant.⁹¹

The Iron and Steel industry of Nova Scotia has been the best single customer that the Nova Scotia coal producers have had, and in absorbing some 25% of the output goes a long way in assisting in the stabilization of conditions at the mines. The sulphur content in the coal has been somewhat of a handicap to the Steel industry, not in that it prevents them from making good steel, but that it adds to the cost; and this has gone some distance towards neutralizing the industry's natural advantages through its proximity to coal and accessibility to iron ore.

Owing to the fact that there was a general tariff of Fifty cents per ton on Anthracite coal, yet a drawback of 99% granted when the coal was used for making metallurgical coke, the Royal Commission recommended that a bounty be paid when Canadian coal was used for this purpose.⁹² This was implemented in May, 1930, by an Act of Parliament giving a bonus of 49½c per ton, for:⁹³

"Bituminous coal mined in Canada and converted into Coke by a proprietor of coke ovens at his coke ovens in Canada and used by such manufacturers in the smelting in Canada of iron from ore in the manufacture in Canada of steel ingots or steel castings."

and this undoubtedly will assist the Steel industry in Nova Scotia, and, consequently, the Coal mining industry.

SOLUTIONS OFFERED

In the discussion of the problems connected with the marketing of Nova Scotia coals upon the Quebec market in particular, it has been pointed out that the mines of this province produce a large variety. This means that as coals suited to one purpose may not work equally well in another, careful selection is necessary; and when one coal cannot be found to meet the re-

quirements, perhaps by mixing a satisfactory fuel may be obtained. It is pointed out, too, that on account of the necessity of banking coal it is extremely essential that the trade be well informed as to the characteristics of and problems connected with banked coal. Mr. H. A. Hatfield, in the article quoted above, makes a recommendation that seems worthy of very serious consideration: to begin with, he recommends a survey to ascertain the type of coal demanded by various sections of the market; in addition to this, investigations should be carried on to ascertain more fully how the greatest efficiency may be secured from Nova Scotia coals; and, as a result of this, the types of coal to be recommended for various purposes; lastly, working upon this information, one or more men should be put in the field to acquaint the market with the characteristics of Nova Scotia coal, and to demonstrate how the furnaces should be fired to secure the maximum efficiency. The field man, or men, would of necessity be an Engineer, fully qualified to speak upon the subject. It is suggested further that this work would be carried out by the Provincial Government, but owing to the centralized control which exists in the coal industry in Nova Scotia, close co-operation on the part of the Government and the operators should be very easy to effect.

As a precedent for the above recommendation there may be cited the exceptional success which attended the efforts of the Alberta Government in its endeavor to extend the market for Alberta coals. Trade names were given to the coals so that the purchaser could be assured of getting the same quality in his different shipments. Investigations were made concerning the characteristics of the coal, and booklets were published in non-technical language and distributed over that area of Canada where there might be a possibility of disposing of Alberta coal. To complete the process, practical demonstrations were given in many cases as to how to use Alberta fuels. As a result of this campaign, Alberta practically monopolizes the domestic fuel trade of the West, even to the point of eliminating almost all American anthracite from the Winnipeg market;⁹⁴ and this latter achievement was accomplished in the face of very low freight rates on Western shipments of coal through the Great Lakes.

These recommendations have, in part, been implemented by the formation in 1927 of a Provincial Fuel Board for the purpose of studying problems connected with the utilization of Nova Scotia coal. Up to the time of writing, no report seems to have been made by the Board, but experiments are being conducted at the Nova Scotia Technical College and favorable results are looked for in the near future. Such a move on the part of the Government cannot be too highly commended, and it is to be hoped that the work will be continued so long as technical problems which permit of solution remain. Research work is coming to play such an important part in industry that it is difficult to lay too much emphasis upon its value.

The considerable savings which are now being made through pulverizing

the fuel are of immense value to sections depending upon coal as a source of their electrical energy. New Brunswick is endeavoring to improve conditions at her mines and at the same time to provide electrical energy to part of the Province at an economical rate by establishing a power generating plant near the mines at the head of Grand Lake. In the Sydney fields, electrical power for use in the mines and the steel industry, and for supplying power to the City of Sydney and neighboring towns, is developed from coal. The development of this form of utilization, however, seems limited owing to the distance of Sydney from any other industrial centre of much importance. Where it is possible to use coal as economically as hydro power, it would be the soundest of business policy to choose the former; for this, while costing no more, would give added stability to production at the mines.

It has been suggested that as the water power of Central Canada which is most accessible has been already harnessed, the time is not far distant when a section of the country, especially Ontario, will be obliged to develop additional power through coal. A plant using gas as fuel and generating some 100,000 H. P. would go far in solving the domestic fuel problem of Ontario through the by-product of coke, and would greatly assist the Nova Scotia mines were coal from that section to be used. Considering, however, that of the 5,330,000 H. P. available twenty-four hour power at 80% efficiency ordinary minimum flow, of which Ontario boasts, only about 1,366,438 H. P. has been harnessed, and that in Quebec the corresponding figures are:⁹⁵ 8,459,000 H. P. available, 1,816,801 H. P. harnessed, there seems very little likelihood of much relief coming to the Nova Scotia industry from this source in the very near future.

TARIFFS

Owing to the peculiar dependence of Central Canada upon American coal, some have argued that it is essential to the political integrity of Canada that she develop her own coal resources and thereby lessen her dependence upon outside supplies. It has been pointed out, however, that there are really two problems in connection with this supply of outside fuel:

- (1)—That of Domestic Coal,
- (2)—That of Industrial Coal.

The domestic fuel problem has been fairly well looked after, but large shipments of outside Bituminous still find their way into Ontario and Quebec. To replace this would be putting a very heavy burden upon Canadian industry, and owing to our relationship to the United States it does not seem that the need is particularly urgent. However, in so far as it is considered necessary from the standpoint of national defence or national consolidation to stimulate the production of more coal from Canadian mines for the Canadian market, to this same extent does the discussion pass beyond the bounds of economics proper.⁹⁶

The demand made for protection to the Nova Scotia industry takes two forms: (1)—A request for higher Tariffs, and,
(2)—A Subsidy, either direct, or upon transportation costs, or both.

The tariff upon coal is fifty cents per ton; and the Canadian industry is subsidized through the subvention on transportation, by-product coking plants, and the direct bounty of 49½c per ton when Canadian coal is used in producing coke for metallurgical purposes.

In a country where protection has become so generally accepted as in Canada, it is difficult to quarrel with any industry for seeking shelter behind a tariff wall, or assistance through bounties, and it is not intended to argue the pros and cons of protectionism. It is necessary to sound a warning, however, lest aid from tariffs or bounties be used as a means of supporting an industry which has not maintained the highest degree of efficiency either in production or sales organization.

In the case for reduced rates for transportation during the winter months from Nova Scotia to the Quebec market, it is argued that by the savings brought about through regularity of employment and production, and the increased revenue accruing to the Provincial Government, the total cost to Canada would be less than the amount paid out in subventions. It could be also argued that there would be a direct saving on the part of the municipalities and society in general to the extent of the unemployment relief which would be otherwise given. Unquestionably these arguments are worthy of consideration; but when it is claimed that Government assistance will bring benefits by making an industry more remunerative to the capital invested, thereby retaining what is already in the industry or attracting more, and that work will be provided for more members of the community, it looks as if there is grave danger of the reasoning leading to the conclusion that it is good business to retain capital in unremunerative enterprises, or, at least, earning less for society in one industry than in another, and that it is not profitable to employ labor most effectively. Yet, if the decline of an industry would mean the transfer of the capital outside the community, making it necessary for the labor forces to shift as well, even the student of Economics can sympathize with the efforts of the people to escape from the painful experience which transition always entails.

Since such a large portion of the cost of mining coal is made up of salaries and wages, bounties or increased returns made possible by tariffs tend to be disbursed more widely than in most other industries; and, in so far as this is true, the subsidy or protection acts indirectly upon those industries which supply the working community as well as upon others furnishing material for use in the mines. Sydney is unquestionably the best "Seller's" market in the Maritimes, and the growth of the Steel and Coal industries in that section has given considerable stimulus to agriculture in the eastern part of Nova Scotia, and, to a lesser extent, in Prince Edward Island. Large

numbers of timbers and mine props are required and in supplying a considerable proportion of the demand, the farmers in Cape Breton Island often supplement their income materially. To continue mentioning the many ways in which the indirect stimulus might be felt would be possible, but since this aspect of the problem is commented upon chiefly as an extenuation of, and not a justification for, the requested increase in Governmental assistance, it is not necessary to carry the discussion further.

CONCLUSION

Although the Nova Scotia Coal industry has suffered in common with the industry the world over, and has had its own peculiar and difficult problems to cope with, the relatively settled condition in respect to labor which has prevailed in recent years, and the centralized control which now obtains (from 85% to 90% of the coal produced being raised from beds controlled by the Dominion Steel & Coal Company), should make it possible, with sound and aggressive management, and with the assistance which the industry now receives, to greatly improve its competitive position and leave it ready to take advantage of every opportunity that presents itself.

During the three day conference held at Halifax in January last to consider the problems of the coal industry, Mr. F. W. Gray⁹⁷ stated that a market for 6,500,000 tons would put them in a comfortable position, and to attain this an increased outlet would have to be found for approximately 1,500,000 tons. A complete monopoly of the Bituminous market of Quebec would just about meet the requirements, as would also an increase in coal consumption in the Maritimes of approximately 35%. Thirty-five new industries in the Maritimes, each consuming as much Nova Scotia coal as mentioned in the agreement between "Dosco" and the Mersey Pulp & Paper Company, would also achieve the same end. Considering the progress that Nova Scotia coal has made in the Quebec market since 1920, and the more recent improvement in industrial conditions in the Maritimes, it might be expected that the final solution will come through greater exploitation of the Quebec market and further industrial development in both fields. Suggestions already made, therefore, both in connection with research work and market organization, should be pursued with the utmost vigor and improvements which are being sought for other Maritime industries will, when discovered, make their contribution in solving the problems of the coal industry as well. Eventually the deepened St. Lawrence Waterway will be an accomplished fact and it is difficult to predict what advantages may come to the Coal industry of Nova Scotia through this development. Already small quantities of coal find their way into Hudson Bay and when this route becomes fully operative a considerable trade may be developed. For the present, however, the closest attention must be paid to the Quebec market, and every advantage must be taken of the industrial development that comes to the Maritimes.

CHAPTER V.

The Fishing Industry

DRIED FISH TRADE

The problems of the Fishing Industry are deeply rooted and of long standing. For many years in the Maritimes, as in New England and Newfoundland, dried Cod formed the basis of economic development. Of all the finny tribe, Cod is the most preferred in a dried and salted state, and is the most capable of standing up well in southern and tropical countries. At the outset, of course, the fish were disposed of in Europe, but as the West Indies developed, large quantities of cheap food were required for the negro slaves; and the flourishing commerce of the earlier days took the form of the well known three-cornered trade between the Maritimes, the West Indies, and Europe. Fishing flourished for years, along with wooden shipbuilding and lumbering; and to the trade in Cod was added the trade in Haddock, Hake, Pollock, Mackerel, Herring and other varieties. The rising standard of living in Europe, the invasion of the dried fish industry by European countries, and the extended operations on the part of Newfoundland, restricted the market and confined the Maritimes chiefly to the West Indies and South America.⁹⁸

Following are given the figures for the production of dried Cod, in five year averages, from 1870:⁹⁹

<i>Prince Edward Island</i>	<i>Nova Scotia</i>	<i>New Brunswick</i>
<i>Cwt.</i>	<i>Cwt.</i>	<i>Cwt.</i>
1870-1874.....	580,854	40,505
1875-1879.....14,993	506,345	82,209
1880-1884.....24,036	616,115	64,617
1885-1889.....24,192	791,044	78,819
1890-1894.....18,522	569,388	84,463
1895-1899.....22,673	557,204	99,674
1900-1904.....27,142	569,309	87,741
1905-1909.....18,264	508,364	84,748
1910-1914.....17,740	486,029	58,135
1915-1919.....5,987	276,066	21,587
1920-1924.....1,521	317,601	56,389
1925-1929.....714	297,849	43,927

Although the earlier figures may be subject to serious error, yet they certainly indicate the well known trend, especially in Nova Scotia, which is and has been by far the most important producer. The trade in Prince Edward Island has become practically insignificant; and New Brunswick, while hold-

ing up fairly well in comparison with earlier figures, is down considerably from the high average of the period from 1895 to 1899.

Newfoundland and Norway have been considered the chief competitors, but France, Great Britain, and even Germany have recently entered the market and are pursuing the Maritime producers to their original stronghold in the West Indies. To some extent the present situation may be explained by recent conditions in Spain, and, to a lesser degree, in Italy, which have lessened those markets for the European and Newfoundland producers; but the chief explanation seems to be that in practically all these other countries a higher quality product is prepared for the market. In the Maritimes the fish are cured either by the fisherman themselves, as in the old days; or, as in Lunenburg, by individuals who are paid a certain amount per quintal. Different markets often demand different types of cures, and as the local fishermen, and those who make a business of drying, do not follow the finished product to its ultimate destination, they are unacquainted with the demands of the market; and the industry, therefore, finds itself in a position where it is obliged to dispose of its fish on the markets that will take the quality which has been produced, since they do not produce especially for the various markets. Obviously this is an obsolete method of production. The strongest competitors to the Maritimes, Norway and Great Britain, follow a different method.¹⁰⁰ There, the fish are cured by the exporters and the peculiar tastes of different markets are recognized and provided for. During the War, the Maritime producers gained a good footing in Cuba, but today Norway and Great Britain have largely captured the market,¹⁰¹ due to the better quality of their product. The same story is told about Brazil, where Scotch and Norwegian fish have practically driven out the Canadian product.¹⁰² Gaspé fish, however, are still prominent on the Brazilian market;¹⁰³ and in Italy the hard dried cod from Gaspé commands a premium of about 10%.¹⁰⁴ For years, of course, this portion of the Gulf of the St. Lawrence has been noted for the quality of its product, but it is significant that the only place where the curing of cod is carried on by the exporting firm is the one able to command a premium for its product. Recognition of this defect in the organization of the industry in the Maritimes was well shown by representation made to the Royal Commission, 1928, at Lunenburg, to the effect that the Government should aid, by means of a loan, in the construction of a central drying plant.¹⁰⁵

Conditions are even worse when the dried Haddock industry is considered. From the peak of production for Nova Scotia during the years 1885 to 1889, when the average yearly output was 189,153 Cwts., there was a falling off to an average of 75,066 Cwts., for 1915 to 1919, which continued to the low point of 17,966 Cwts. for 1925 to 1929.¹⁰⁶

It is not necessary to burden the reader with more figures as these are

the most important branches of the dried fish industry, and Nova Scotia is the chief producer.

To find a solution to the problem is far more difficult than stating it. Inertia seems to be a law prominent in human society as well as in the world of physics. To recommend that the industry as now established should change its methods might be good advice, but, if followed, would only take place very gradually, and in the meanwhile markets will be steadily lost and the industry will steadily decline. Even when the exporters are anxious to see the methods altered, there is the stiff opposition of the other branches of the industry. It might be possible, however, to bring some relief by combining more effectively the dried and fresh fish business. In Great Britain this combination seems to be responsible for the rapid strides that have been made in recent years. Before the war, when the trawler catches began to exceed the requirements of the fresh fish market, the surplus was salted and dried, and today fishing for the dried fish trade is a regular part of the work of the fishing fleet.

FRESH FISH TRADE

The fresh fish trade has compensated to some extent for the decline in the dried product, but in this field the Maritimes are at a distinct disadvantage. The readily accessible markets in the eastern United States are made difficult to reach on account of the tariff, which when altered seems always to be altered in an upward direction. The larger Canadian markets of Montreal and Toronto necessitate a long rail haul, a considerable amount of time, and consequent expense. In 1908 the Federal Government assisted the industry to reach these markets by means of a subsidy on transportation costs, and much good work has been done in taking advantage of the outlet thus provided; but, in spite of this, the amount of fresh cod marketed from Nova Scotia in recent years has not equalled the high average of 105,496 Cwts. for the years 1915 to 1919, and even Haddock, which is preferred as a fresh fish, is below the 1915-1919 average. In New Brunswick and Prince Edward Island, on the other hand, there has been a steady increase in the amount of fresh fish marketed, which is due, no doubt to their proximity to the Central Canadian market in contrast to certain sections of Nova Scotia.

Smoked Fillets, and, of late, Brine Frozen Fillets, have assisted in easing the shock to the industry from the decline in the dried fish trade. There seems to be an impression in certain fishing circles that the Brine Frozen Fillet is not destined to make any considerable impression upon the Canadian markets owing to the availability of fairly regular shipments of fresh fish. Much educational work unquestionably remains to be done to convince the housewife that the brine frozen fillet will give the best of satisfaction, and to induce the retail trade to make proper provisions for the handling of such a product. The Biological Board has amply demonstrated the feasibility of marketing the brine frozen fillet in Toronto; and the Torontonians who have

learned of its excellence decline to purchase the unfrozen fish, owing to the uncertain quality. The larger firms are unquestionably in the best position to develop this trade, and Dr. Huntsman sees hope in a similar amalgamation movement in Canada to that which has taken place in the fishing industry in Great Britain.¹⁰⁷ At the present time the policy seems to be to make up into the smoked and frozen fillets the fish that cannot be marketed fresh.

The growth in the fillet trade is chiefly responsible for the relatively recent increase in the production of fish meal and fertilizer, a by-product derived from about two-thirds of the weight of the fish, which would be otherwise wasted. The meal that is made from this waste is very high in protein and low in fat, thereby constituting exceptionally good cattle feed; and while, at present, the consumption of fish meal in Canada is not great, in the course of time it might be hoped, especially in the Maritimes, that an increasing amount will be used to replace other protein feeds which are now shipped into the Province.

Although the fresh fish trade has affected all parts of the Maritime Provinces, it has been of especial significance to the eastern portion of Nova Scotia. In Guysboro County, for instance, the dried fish business has virtually disappeared. In 1927 there were only 175 Cwt. of dried haddock reported, and the increase to 1240 Cwt. in 1929 is accounted for by the disturbance to the fishing trade caused by the imposition of the trawler tax. Dried Cod has had a similar decline: where production was usually found around the 30,000 Cwt. mark, in 1927 it was down as low as 1050 Cwt. Here again, the increase to 2877 Cwt. in 1929 can be attributed chiefly to the same disturbance which affected the haddock industry.

The Guysboro coast was settled almost exclusively by fishermen who depended to a large extent upon the dried fish trade. The large amount of land required for drying purposes left the population scattered in small groups at the many harbors along the coast. With the coming of the fresh fish trade this was decidedly disadvantageous, for the fresh fish market requires that the product be made available as soon as possible after the fish is taken from the water; and, in order to meet this requirement, collection services had to be instituted, which necessarily added to the cost of marketing, except where Government subsidies were forthcoming. The world over, with the development of the fresh fish industry there has gone a concentration at certain centres from which distribution can be made with the greatest facility. Many parts of the eastern coast of Nova Scotia, including Guysboro County, seem to have experienced difficulty in producing the best quality of dried cod in days gone by, attributed by many to the considerable amount of fog which visits this section of the country; but, whatever the explanation, the dried fish industry has declined and more there than in the western section. It is no longer necessary to depend entirely upon sun and wind to dry the fish, as

artificial driers have proven to be efficient and economical. If a concentration of the fresh fish trade could be brought about, it might be possible to operate the dried fish trade as well, under similar circumstances to those prevailing in Great Britain, Norway, and, to a lesser extent, on the Gaspé coast. This concentration, which necessarily involves the shifting of population, seems almost unavoidable, and subsidized collection services tend only to prolong the present unsatisfactory situation, with continued dissatisfaction to the fishing centres and increased cost to the Government. Instead of subsidizing collection services and thereby perpetuating an inefficient organization of the industry, the Government might well assist in the unavoidable transition for certain sections, and, in order that no serious errors be made, the whole question should be carefully studied by a competent body of economists, fisheries experts, and representatives of the fishermen and the trade.

ORGANIZATIONS IN THE INDUSTRY

It should be less difficult now than formerly to effect closer co-operation between the fishermen and the trade, and to secure better support for any general policy of development, owing to the organization which now obtains on both sides of the industry. In 1915, the Canadian Fisheries Association was formed, which includes not only members of the trade, but individual fishermen who wish to join.¹⁰⁸ In June, 1930, there was formed the United Maritime Fishermen, following the organization work of the Rev. Dr. M. M. Coady.¹⁰⁹ Although the Royal Commission recommended that the Government take a hand in organizing the fishermen primarily that they might develop co-operative action which would extend to marketing and the purchasing of supplies, unquestionably the greatest service which this association will render will be to bring to the fishermen a fuller understanding of the problems relating to their industry, and to develop a more scientific approach to the solution of these problems.¹¹⁰ Successful co-operative marketing does not spring up over night, but is always preceded by a fairly long history of organization for other and more general purposes. Since fishing is a business which depends to a large extent upon the initiative of each man in the industry, it tends to develop individualism to a very noticeable degree; and while there are a few examples of brilliant successes in co-operative action on the part of Maritime fishermen, nevertheless these are isolated cases and are confined to such lines as lobsters, salmon and smelts, which are marketed under special conditions. The Commission reasoned out the advisability of attempting to promote the co-operative movement among the fishermen on the basis of analogy, taking their evidence from what has been accomplished in the field of agriculture. Analogies, of course, are dangerous, and, in this instance, appear to have been quite misleading. Although the United Maritime Fishermen is not likely to achieve in the very near future the objective which the Royal Commission set up, nevertheless it has a valuable function to perform in mak-

ing vocal the views of the fishermen, and in carrying out educational work in connection with the industry.

EDUCATIONAL AND RESEARCH WORK

By means of extension work and classes to fisheries supervisors the Government is endeavoring to do its part to convey to the fishermen knowledge of the best methods and practices for the industry. The Biological Board has made, and is still making, valuable contributions to the scientific side of problems affecting the fishing industry. Much still remains to be done, but the work is being prosecuted with vigor and by men whose ability is unquestioned. Due to the organization which now exists for the dissemination of knowledge, it is rather useless here to comment upon improvements which are well recognized to be essential, and which are continually being brought to the attention of the fishing population and members of the trade. No small amount of progress has been achieved and there are firms operating in the Maritimes whose methods are as modern as the size of their industry and available capital will permit.

BOUNTIES

Every year there is set aside by the Federal Government the sum of \$160,000—to be paid as bounties to the fishermen of the North Atlantic Provinces. This amount is looked upon as interest of about 4% on the amount obtained by the Dominion of Canada through the Halifax Award. The basis of distribution for the season 1929-1930 was as follows:¹¹¹

Vessels Owners	-----	\$1.00 per ton, Maximum \$80.00
Vessel Fishermen	-----	\$7.50 each
Owners of boats of not less than 12 feet keel	-----	\$1.00 per boat
Boat fisherman	-----	\$6.65 each

On the above basis there were distributed \$159,749.35; there were employed 9,000 Boats and 546 Vessels. On the basis of crafts employed the distribution was as follows:

<i>Number of Boats</i>	<i>Bounty</i>	<i>Average Bounty Per Boat</i>
9,000	\$119,467.35	\$13.27
<i>Number of Vessels</i>	<i>Bounty</i>	<i>Average Bounty Per Vessel</i>
546	\$40,282.00	\$73.77

Although the amount distributed is fairly considerable, it means little to each fisherman, and could certainly be used to better advantage were it given to assist in the purchase of more modern equipment. Doubtless it would be difficult at the present time, due to political pressure, for the basis of distribution to be altered to any considerable extent, but the criticism of the arrangement made by the Nova Scotia Government before the Duncan Commission seems quite justified.¹¹² The Royal Commission on Fisheries,

1928, tacitly admitted the absurdity of this arrangement when it recommended that the extra three years' interest which the fishermen claimed should not be distributed upon the present basis.¹¹³

THE LOBSTER CANNING INDUSTRY

The chief problem in the Lobster Canning industry arises from the relatively large number of small factories which are operating. In 1929-1930 there were in the Maritime Provinces 298 of these Canneries and the amount sold was 117,206 cases.¹¹⁴ If this may be taken as representing the pack, the average for each factory was but 393.3 cases. Since there are a number of plants turning out a fairly large quantity, this low average suggests many units with a very small production. Although the capital invested in a Lobster factory is not very considerable, yet, with so many small plants, it is readily understood that difficulty would be experienced in getting the very best of equipment. It is quite definitely known, for example, that all the bacteria in the meat cannot be killed at ordinary boiling temperature, and the advisability of using retorts has been amply justified. A recommendation that they should be required for all factories was made by the Royal Commission.¹¹⁵ If this recommendation is made effective and rigid inspection followed up, many of the difficulties which the industry now experiences will settle themselves. The smaller and less efficient factories will tend to go out of existence, which will mean a concentration in fewer units and better marketing control.

At the present time perhaps 50% of the canned Lobsters of the Maritimes are disposed of in Great Britain, 30% in the United States, about 7% in Canada, and the rest in Europe and the West Indies. With the bulk of the output being sold on such distant markets, best returns cannot be expected when so many individual firms are endeavoring to dispose of their pack. Competition from Japanese Crab, and even Canned Salmon, makes it necessary to put upon the market the best product possible with the most efficient marketing organization.

THE LIVE LOBSTER TRADE

The American market is taking ever increasing quantities of live lobsters. This trade began in the 'seventies and has continued to increase. The figures for the live lobster trade as given in the report of the department are of doubtful value, especially for earlier years, as has been fairly ably demonstrated by R. H. Williams in "*The Lobster Industry*," published by the Maritime Canned Fish Section, Canadian Manufacturers' Association, Amherst, N. S., January, 1929, pages 6 to 13 inclusive. The success of this trade is undoubtedly bound up with improved transportation facilities and increasing understanding of the care required in grading and handling.

That certain restrictions are necessary to preserve the Lobster industry for the Maritime Provinces seems to have been well recognized; close seasons

and size limits have been used with varying degrees of effectiveness. The difficulty is to secure enforcement of regulations, which suggests a lack of appreciation on the part of the fishermen of either the need for or effectiveness of the regulations; and perhaps the Royal Commission in recommending a size limit has not improved matters.¹¹⁶ The Department is in the best position to ascertain what regulations are necessary as the services of the Biological Board are at its disposal. A study is now being made by Prof. Chason, of the St. Francis Xavier University, which will doubtless lead to a better understanding of what is required to perpetuate, if not to increase this industry.

BACKWARD AREAS

Backward districts in the areas where fishing predominates are those which, because of less favorable location, poor transportation facilities, and few alternatives from fishing, have been left high and dry when the ebb tide of the dried fish industry set in. Generally speaking, these districts are located in the eastern section of Nova Scotia and on the North Shore of New Brunswick. In many places the practice of farming a small piece of land developed, and often those who were fortunately situated managed to do fairly well with this combination. In not a few instances, berrying has helped to swell the income of the family; and, along the Guysboro shore, where the foxberry thrives, a considerable trade in this fruit has sprung up. But no traveller in the Maritimes needs to be told that there are many barren sections along the coast, or that many fishing communities are located near small harbors where only small vessels may enter, and where ice makes communication with the rest of the world by water practically impossible for several months during the Winter. Farming is often out of the question, and the individual fisherman is unable, in many cases, to cure his fish in a manner that will command a price upon the highly competitive market of to-day, while at the same time he has difficulty in reaching the fresh fish market owing to his location and the cost of collection services. The attempt to carry to these fishermen information concerning the best technique in fish curing has not been particularly successful and affords little hope for the future. To make a large number of individuals expert in this industry which has many ramifications, all of which require especial care and no small amount of understanding, is a task which necessitates years and money; and, as the endeavor succeeds, the fishermen so trained cease to be fishermen but employees for fish firms, or dealers on their own. On the other hand, if concentration is made upon the best practices in fishing, and curing is left to the care of companies or corporations, a much more efficient industry is likely to develop; and those districts which have a possibility of coming back into their own will more readily find their place. A careful survey of these districts is necessary, with a view to discovering possibilities in other lines of development outside of fishing, as well as to discover what latent possibilities still remain to

be exploited in the fishing industry itself. Railway facilities may solve the difficulty for some, others may be able to concentrate upon agriculture, in which case the efforts of the agriculturists of the particular province should be directed towards effecting this transition; but, in other districts, it is almost certain that the people would be better off were they enabled to remove to a more advantageous location and continue in their former occupation or make a new start in some other branch of industry.

Often it happens that the community is not making the best use of its opportunities, and local leadership is required. In fishing, as in agriculture, this leadership has been often supplied by the Church. At Larry River, Guys-boro County, Father Forest has achieved wonders with very little raw material. This settlement has a school that might well be envied by a much wealthier district. The community has built and operates a saw mill, which has been of exceptional value to all residents. The foxberry industry, which threatened to become unprofitable owing to the poor quality of the pack, the lack of uniformity in package, and cost of securing the barrels from outside, now promises to become a very remunerative industry, obtaining the barrels needed from the local craftsmen, and, through voluntary submission to inspection, producing a product of uniform quality.

Lest it be thought that the difficulties as presented reveal a lack of appreciation of what has been accomplished, or of the excellent qualities of the fishermen, let it be understood that an endeavor is being made to seek out problems that remain to be solved, and not to give the history of past achievements. Much of what has been accomplished still stands as a sound foundation for future development; but much, too, will have to be abandoned owing to changes in the technique of the industry and in the market requirements. Those who have succeeded best have staked their all upon quality products, have thereby been able to dispose of their products when others could not find a buyer; and, when others secured a fair price, these individuals or firms received a premium. Nothing will serve to-day but the best, and, as the success thus far made has been based upon this understanding, it is a fairly safe standard for the future.

A WORD ABOUT THE TRAWLER

So much has been written about the trawler of late that it is difficult to close this discussion upon the fisheries of the Maritimes without a reference to this question.¹¹⁷ This form of fishing, which is well described in the Report of the Royal Commission, has come to predominate in the fresh fish trade of practically all countries, from Norway to the United States, and on to Japan. When it was introduced, it was energetically opposed, as was the printing press and the loom; but, like the latter, the trawler has persisted. In Canada, the trawler was practically taxed out of existence and the recent decision of the Courts but removes the responsibility from the Minister of Fisheries to the House of Commons.

The claim made in defence of the trawler which merits most consideration is that it is able to produce fish more regularly than other forms of fishing practiced upon the Atlantic Coast of Canada; and, by so doing, is able to take advantage of a wider fresh fish market both in Canada and the United States. In order to increase the consumption of a commodity such as fish, which has so many competitors, a regular supply, as well as quality and price, is certainly necessary. The chief competitor to the trawler is the vessel, carrying a number of dories which are lowered into the water when the fishing grounds are reached, and from which the actual fishing is done. In stormy weather, it is not only difficult to carry on this form of fishing, but highly dangerous; and, should a snowstorm blow up before the schooner could pick up the dories, the men who are left afloat are as good as lost. No one, of course, doubts the hardihood of the fishermen of the Maritimes; but, although many claim that the number of days when a vessel cannot fish, and a trawler can, are greatly exaggerated, few maintain that the hook and line fishermen are able to operate as regularly during the Winter months as the beam trawlers.

The trawler interests are centred chiefly at Halifax, market by far the greater portion of the fresh fish; and, in 1926, it is claimed produced forty out of the ninety million pounds, and purchased 72% of the catch of the shore fishermen.¹¹⁸ These operations affect the eastern portion of the Nova Scotia coast, where small boat fishing predominates. The vessel interests are located chiefly along the South shore, west of Halifax, where the dried fish trade is of primary importance, and for which the area is well suited owing to climatic conditions and the abundance of excellent harbors. As to which form is the cheaper, it is difficult to ascertain. Sometimes the trawler is denounced on the grounds that it is a cheaper form of exploitation, and, therefore, tends to put out of business the vessel and boat fishermen; and, again, it is stated to be an expensive form of fishing, or, if more economical, but slightly so. The trawler owners themselves seem to maintain that it is not more economical so far as actual cost goes, but that it affords more regular production, thereby making available more extensive markets, and even go so far as to claim that the larger market thus created will make it possible to purchase more fish from the shore fishermen.

Unfortunately, the Report of the Royal Commission throws little light upon the entire subject. There are two reports: a Minority Report by the Chairman of the Commission, and a Majority Report by the others. The reasoning in the former was hampered by the lack of available data upon the subject; and, in the latter, by no appreciation of Economics. The trawlers are accused of depleting the fishing grounds by the wanton destruction of small fish, but while it is undoubtedly true that many small fish are destroyed by this method of catching, it is by no means certain that the supply is diminished on this account. The cod and haddock, the two species most sought

after, are prolific breeders, and vast numbers are undoubtedly devoured by other fish, or die from other causes. The stage at which this great mortality takes place is not known, and the manner in which it takes place is still to be ascertained. It might be pointed out, however, as pertinent to such a problem, that the wholesale nature of the catching of small herring in the Bay of Fundy, as sardines, has not diminished the supply of this fish, and the herring are not so generous in their breeding habits as are the cod and haddock. The claim that the trawler destroys the feeding grounds is also a supposition still to be verified, as is the question of "sick fish", about which the scientists have little or nothing to say.

Perhaps the most significant development of late which has a direct bearing upon this subject is the use of auxiliary engines in the schooners, which has made the vessel a much more efficient craft for all purposes, whether operating for the dried or fresh fish industry. Since the development of the trawler question, these schooners, equipped with auxiliary engines, have entered into the fresh fish business, whereas formerly they had been laid up during the Winter when it was not possible to fish off the banks. The advantage of the schooner is that, when there is an abundance of fish for the fresh fish market, it can go halibuting, or even fish for the dried fish trade.¹¹⁹ This advantage is undoubtedly something strongly in favor of the vessel and promises to give it a fighting chance with the trawler, especially in Western Nova Scotia where the dried fish industry is still in a fairly flourishing condition. But it is still true that certain days prevent the vessel from fishing when the trawler can operate. The use of wireless or radio upon the vessel is just as feasible as upon the trawler, which makes it possible to control their movements in a similar manner.

In the quality of fish landed, the vessel and boat may have some advantage also. Large quantities are taken in the the trawl at one dragging; and, when the huge net is hoisted out of the water, the fish in the bottom are often badly crushed. If a vessel or boat caught fish is promptly bled and cleaned, and packed on ice, it is almost certain to be placed upon the market in better condition than the trawler caught fish. In the course of time, therefore, as the best methods of caring for the fish from the time it is taken from the water become more general among shore fishermen, whether operating vessels or small boats, the fish so caught ought to command a premium.

Although these latter considerations show the vessel and boat fishermen to be in a better competitive position than is often assumed, it does not obviate the most significant argument in favor of the trawler, and it is probable that the operations of the trawler will, by enlarging the market, bring a greater measure of prosperity to the shore fishermen than their abolition. That it will necessitate certain changes is almost a foregone conclusion, but these changes will be in the direction of concentration of the fishery at certain advantageous points, something that is greatly needed for the fishery of Eastern Nova Scotia.

CHAPTER VI.

The Tourist Trade

GENERAL DEVELOPMENT

There has been a remarkable increase in Canada's Tourist Trade of recent years which has risen from a credited value of \$83,734,000—in 1920 to \$279,238,000—in 1930.¹³⁰ Although statistics on this branch of the trade are not all that might be desired, there can be no doubt concerning the trend, whether for the Dominion as a whole or for the Maritime Provinces. The expenditure of American tourists entering the Maritime Provinces by car is said to have increased from \$777,000—in 1922 to \$9,831,000—in 1930.¹²¹ Unfortunately, it has not yet been possible to make any regional classification of the expenditure of those who enter the Dominion by rail or vessel. In 1930, of the total tourist expenditure in Canada, 72.49% was attributed to those entering by car from the United States; 22.87% to those entering by rail and steamer from the United States; and 4.64% to those entering via Ocean ports.¹²²

The purpose of the Bureau's figures, which is to measure an invisible item in Canada's trade balance, is responsible in no small degree for their inadequacy in a regional study. Not only is there no regional division for the two minor items in the three-fold classification, but trade within the Dominion is necessarily omitted. Although the figures that are available are very helpful, they are too inadequate to admit of even an approach to a quantitative analysis; a fact which should be well understood before continuing further with this survey.

In the two years for which figures are given for the Maritime Provinces, the number of American cars which crossed the border has been placed at 301,321 for 1930, as compared with 197,952 for 1929. Cars are divided into three classes, according to the time spent within the country: Twenty-four Hours, Sixty Days, and Six Months, and the figures for the available two years are as follows:¹²³

MARITIME PROVINCES

Cars admitted for:

	1930	1929
24 Hours.....	243,375— 80.77%	158,860— 80.25%
60 Days.....	57,876— 19.21	39,034— 19.72
6 Months	70— .02	58— .03
	<hr/> 301,321—100.00%	<hr/> 197,952—100.00%

The reason for grouping the Maritimes as one unit is fairly obvious as cars destined for Nova Scotia and Prince Edward Island enter in considerable numbers through New Brunswick.

The value to be attributed to the twenty-four hour class of visitor would be very difficult to settle upon owing to the conditions obtaining along the New Brunswick and Maine border, where relatives are found in great numbers on either side of the international boundary line, and where Government Control of liquor induces many to cross to the Canadian side for the occasional bottle of beer.

Cars have not been classified for the Maritimes according to States, but Nova Scotia has kept an independent record of cars coming in at the various points of entry and overland, and in 1930 published an analysis of the origin of American cars entering that Province during 1929.¹²⁴ Out of a total of 11,594:

5124	came from	Massachusetts,
1368	"	New York,
536	"	New Jersey,
518	"	Maine,
436	"	Connecticut,
288	"	Pennsylvania,
283	"	Michigan.

Had an analysis been made for New Brunswick of the Sixty Days and Six Months cars, doubtless the results would have been quite comparable, although it is likely Maine would have taken second place instead of New York. These figures reveal the very close relationship between the Maritimes and the New England States, especially Massachusetts.

In Saint John it is said that three or four years ago the sight upon the streets of the city of a car bearing an Ontario license plate was a novelty, whereas to-day it is relatively common. Quebec is not so well represented; due, perhaps, to the pull of New York, the difference in language, and the fact that there is only one car to every 17.8 persons, while Ontario boasts of one car for every 6.6.¹²⁵ In the record of cars entering Nova Scotia in 1929 there are reported 865 from Ontario and 565 from Quebec. Doubtless the "Land of Evangeline" is responsible for so favorable a representation from the latter province, for the impression seems to prevail in Halifax, as well as in Saint John, that the ratio between Ontario and Quebec is far more favorable to the former province.

From the figures available which have been presented, as well as from personal inquiries among those conversant with the tourist trade in these provinces, by far the largest number come from the American side: east of Chicago, and north of Maryland and West Virginia on the Atlantic seaboard. Quebec sends a representative number, and Ontario's proportion is steadily increasing. The remoteness of other parts of Canada and the

United States makes questionable the advisability of endeavoring to elicit more trade beyond the limits already mentioned.

The beginnings of the trade are difficult to trace, but doubtless they are to be found in the many Maritimers domiciled in other parts of the Continent returning home to visit friends and relatives. The close relationship between the New England States and the Maritimes has been pointed out above, and the large number of cars entering Nova Scotia from Massachusetts might well be correlated with the many Nova Scotians known to be resident in that State. Although former Maritimers returning home to spend a holiday with relatives or friends may not benefit the country by the direct expenditure of so large a sum as would strangers, nevertheless, their indirect contribution is very great in so far as they do much to make known the advantages of these Provinces as a quiet retreat for a pleasant holiday, a land of varied and attractive scenery, a region of especial historical interest, and a veritable paradise for the hunter and sportsman. Following the establishment, many years ago, of a summer home at Baddeck by Alexander Graham Bell, there was a noticeable influx of visitors to this section of Nova Scotia; and recognition of the trade in New Brunswick was given as early as 1896 by the establishment of the "Tourist and Sportsmen's Association" in Saint John. Longfellow's poem, "Evangeline," immortalized the Grand Pre district of Nova Scotia, whither many readers and admirers have journeyed for years. This interest was heightened in 1919 by the unveiling of a statue of "Evangeline", which took place on the occasion of the visit to this country of the British Press Association. Newspapers throughout the English speaking world featured the incident, and the entire Annapolis Valley benefitted in the resulting increase in tourist travel.

ORGANIZATIONS AFFECTING THE TRADE

In both Nova Scotia and New Brunswick the Governments have assumed responsibility for the major task of acquiring more tourists and supplying them with needed information. In the former Province these duties were undertaken in 1926 and are now administered by the Public Information and Tourist Branch of the Department of Highways; and in the latter there was established in 1928 the New Brunswick Government Bureau of Information and Tourist Travel, which took over the duties of the New Brunswick Tourist and Resources Association. The Prince Edward Island Publicity Association is supported only in part by Government funds, the balance being donated by Summerside and Charlottetown, and through private subscriptions.

There are in addition to these departments and organizations with a provincial wide function, local associations which have as their main objective the encouragement of tourist travel in some particular vicinity. Among these are the Cape Breton Tourist Association, the South Shore Tourist Associa-

tion, and the Saint John Tourist Association. Local Boards of Trade often take an interest in this growing "industry" and doubtless could be of material assistance were their efforts properly directed.

Each of the two Railway systems in Canada maintains a Tourist Information Bureau, and does much through the medium of direct advertising and the circulation of informative pamphlets to encourage increased travel on the various branches of the road, especially in those sections where are established their better hotels.

The Dominion Government assists indirectly in many ways in the tourist trade, but the National Development Bureau of the Department of the Interior, through its many publications, maps, blueprints and descriptions of canoe trips, motion picture films, and information supplied to many inquirers, gives good and direct service.¹²⁶

As an outgrowth of the conference of the organizations concerned with the tourist trade in Canada, held in December, 1929, there was organized "The Canadian Association of Tourist and Publicity Bureaus," for the purpose of rendering mutual assistance in the promotion of tourist travel in Canada. It would appear that one of the major objectives of this Association is to induce the Federal Government to undertake a campaign of advertising for the Dominion as a whole.

The organization for the promotion of tourist travel, therefore, seems to be progressing in a relatively satisfactory manner so far as the major structure is concerned, but there still remains much work to be accomplished.

EXPENDITURE TO ENCOURAGE THE TOURIST TRADE

It is impossible to make an estimate of expenditure for the encouragement of tourist travel in these Provinces which is worth the name. It may be profitable, however, along with some of the items of expenditure to consider the agencies involved in this promotion work, with the view of ascertaining whether or not their functions could be improved and their expenditures more advantageously distributed.

Of the three Provincial organizations there were expended for 1930 the following sums:¹²⁷

New Brunswick	\$ 37,665.07
Nova Scotia	50,880.94
Prince Edward Island	5,476.73

With the exception of Prince Edward Island, these sums were not spent entirely upon the Tourist Trade, and it would profit but little to endeavor to allot the proportions spent for this purpose. The money was distributed to pay for newspaper and magazine advertising, the publication of pamphlets and maps, the support of information depots, and other items incidental to the service. It would appear that the three Provinces co-operate in supporting

the office at St. Stephen, through which point of entry come many cars destined for Nova Scotia and Prince Edward Island, as well as for New Brunswick. Co-operation in advertising might well be profitable for all concerned. It was attempted in 1929 for Ontario and the practice should be re-established as visitors from a distance, whether from the rest of Canada, or from the United States, unless spending a holiday with relatives or friends, think of the Maritimes as a unit, and usually plan their trips so as to cover the main parts of all three Provinces. It does not appear that the Provinces are over-spending in this particular branch of their work, but the proportion of relatively fixed charges to the total expenditure seems quite high.

The smaller and local organizations secure their funds for the most part through personal subscriptions from those interested in the development of the community in which the organization is to function. Very often the money collected is spent in the production and distribution of a pamphlet, leaving little or nothing for the carrying on of work even more important. One reason for this may be found in the tangible nature of the publication, which is direct evidence of the activity of the association. However, were more time, and, consequently, more money, devoted to seeing that the hotels and boarding houses were well appointed and served good meals, to encouraging farmers to whitewash fences and outhouses, and to replacing some of the unsightly roadside stands by attractive ones, the benefit to the community would be infinitely greater in the long run. In this respect the Saint John Tourist Association has done good work by making inspection of boarding and rooming houses in order that visitors may not be directed to places unsuited to their means and taste. In the endeavor to encourage local hotels, restaurants and boarding houses to put up the most attractive meals, a good turn will be done not only the tourists but the local producers as well. The visitor, often from a large city where he has been fed upon canned goods, more than relishes a well cooked meal, including fresh fruits and vegetables, and during the summer season canned goods should be set aside as much as possible.

The expenditure on the part of the tourist bureaus of the two railways is not ascertainable for the Maritimes, but that appreciable sums are spent is well understood. Co-operation on the part of these two agencies in this particular field is very difficult. In the first place, those parts of the Maritimes which are served by the Canadian Pacific are well advertised and well supplied with hotels. In the second place, a relatively small portion of the country is Canadian Pacific territory, the rest being primarily Canadian National. In advertising, too, much use is made of the names of hotels, which makes joint advertising practically impossible. With the return of prosperity further development may be looked for, especially in Canadian National territory, in the form of new hotels, but for the present little more than what is being done may be expected.

ROAD EXPENDITURE AND OFFSETTING REVENUES

Another item of expenditure which is often spoken of in relationship to the tourist trade is that of Highways, and the sum spent by the three Provinces in recent years on the construction and maintenance of roads has been very considerable, as will be seen from the following figures:

<i>Total Road Expenditure</i>				
	1927	1928	1929	1930
Nova Scotia.....	\$3,189,218	\$4,808,425	\$3,030,175	\$4,758,041
New Brunswick.....	2,795,240	4,537,219	6,467,204	8,296,684
Prince Edward Island..	245,922	427,417	426,019	Not Available

Of these totals, part was spent on Capital Account and part on Maintenance, and to show these main divisions the 1930 figures are given:¹²⁸

	<i>Capital Account</i>	<i>Maintenance Account</i>
	1930	1930
Nova Scotia.....	\$2,702,217	\$2,055,824
New Brunswick.....	6,537,323	1,759,361
*Prince Edward Island.....	214,518	211,501

*The Prince Edward Island figures are for 1929; 1930 not yet available.

It is impossible to debit any definite proportion of the Maintenance charges to the Tourist trade, or to say what amount of Capital expenditure may be justified on the grounds of further possible increases, but in respect to either Maintenance or Capital expenditure the sum will not be large.

Certain revenues received by the Governments may be considered as offsetting these expenditures, chief of which are Gasoline Taxes, and returns under the Motor Vehicles Act, but if to these were added Licenses for Fishing and Hunting, and profits from Government control of liquor, the total would still fall far short of meeting the gross expenditure for construction and maintenance of highways. For the purpose of making this clearer, the figures for 1930 are given, with the exception of those for hunting and fishing licenses, which are not made available for Nova Scotia through the Public Accounts, but which would not affect the total to any significant extent.¹²⁹

Revenue for 1930, from:

	<i>Nova Scotia</i>	<i>New Brunswick</i>	<i>Prince Edward Island</i>
			*1929
Gasoline Tax	\$ 849,496	\$ 660,998	\$106,155
Motor Vehicles Act.....	1,043,137	875,244	113,227
Liquor Control.....	261,558	1,522,496	.....
Total.....	\$2,154,191	\$3,058,738	\$219,382

*1930 figures not yet available for Prince Edward Island.

Again, it is impossible to arrive at a satisfactory figure for the proportion of these contributions attributable to the tourists, and the sanest way to view

this aspect of the problem is to consider the highways as built and maintained primarily for domestic use, and the tourist trade as a means of cutting down the overhead of this huge expenditure. If, however, more and better roads are urged on the grounds that the tourists will pay for them, it would be well to consider seriously the above figures and to speculate upon the indirect contribution made by visitors to these parts.

EXPENDITURE BY TOURISTS

With our present information the distribution of the expenditure on the part of tourists is impossible to trace in detail, or to evaluate within any useful degree of accuracy.¹³⁰ It will be advantageous, however, to consider the main branches of this expenditure with a view to ascertaining ways and means of both increasing the trade and making it more profitable. The chief branches of expenditure by tourists are:

- (1.) Board and Lodging,
- (2.) Transportation, including boat and railway fares, gasoline, oil, and garage services,
- (3.) Fishing and hunting licenses, and services of guides,
- (4.) Building and renting of summer homes and cottages,
- (5.) Merchandise.

(1.) *Board and Lodging*

Complaints are regularly heard from the hotels that much business is being lost to over-night cabins and small wayside inns, and it is interesting to speculate as to whether or not the tenacity with which the hotels have clung to the "American plan" is not responsible to some degree for this.¹³¹ A tourist, above all types of visitors, wishes to be free to come and go at will, and, unless fairly opulent, it is a consideration to him whether or not he gets the meals for which he pays. Over-night cabins are more or less a recent innovation and accommodate the tourist who is travelling economically. Usually they are built in conjunction with a small wayside inn, or a farmhouse conveniently located, but a few are springing up on the highways at advantageous points; such, for example, as "Kierstead's Camps" at the junction of the roads to Fredericton and Calais, where there is a considerable cluster of cabins, with free kitchens, a store, and other conveniences. Although hotelkeepers may not relish this form of competition, nevertheless it has doubtless come to stay, and is in reality supplementary to, rather than competitive with, the larger hotels.

For each of the three Provinces there is published a list of the hotels and rooming houses. The Nova Scotia publication seems to be most complete, giving rates, number of rooms, information concerning baths, hot and cold water, bathing and boating facilities, tennis courts and golf courses. The New Brunswick pamphlet is concisely and conveniently arranged, and reasonably informative. The list for Prince Edward Island could be greatly im-

proved were more particulars given, such as rates, number of rooms, baths, hot and cold water, etc.

The desired improvement in meals and equipment has been already mentioned, and the Governments might do well to consider the efforts being made in this direction through the Hotel Service of the Province of Quebec.

With so many of the tourists travelling by car, parking space is quite essential and this point was fairly well summed up by Lt.-Col. Oscar Gilbert, President of the Province of Quebec Hotel Association, in speaking before the Good Roads Convention in 1930, when he said:¹³²

" I believe that parking place for automobiles is as important to a hotel as is a wharf to a parish along the St. Lawrence River. No wharf, no boats; no parking ground, no cars."

In one Province at least there is an Hotel Association, which does not appear to be particularly active. Certainly there ought to be some means of bringing together the hotel managers for discussion of their problems and an exchange of their views. An active association would go far to improve accommodation by bringing about a better understanding of reforms made urgent by the past and prospective development of the tourist trade.

(2.) *Transportation*

Transportation services, whether in connection with rail, steamship, or automobile traffic, tend to employ a relatively large number of individuals, and anything which increases this type of services would react most favorably upon a district like the Maritimes by widening the domestic market for local producers.

Both railways seem to have put forth considerable effort to increase traffic in this as well as other parts of their respective systems, and there is no reason to complain of the accommodations provided. Here, as elsewhere upon the continent, the automobile has cut deeply into railway earnings, and there is a possibility that the tremendous increase in mileage of good roads, and the preference shown for motor travel, might be utilized to the advantage of the railways in connection with the tourist trade. For instance, it is very difficult to see much of Cape Breton without a car, but many would travel to this part of Nova Scotia by train if, upon arrival, they were able to take a trip by motor bus to the outstanding beauty spots upon the Island. This bus service need not be confined to Cape Breton in order to be profitable to the railways, but could be utilized in New Brunswick as well as in other parts of Nova Scotia.

The scenic attractions of the Saint John River and the Grand Lake district of New Brunswick have not been taken fullest advantage of, and it is an interesting speculation whether or not co-operation between motor bus and steamship would not make more appealing these inland waterways. If motor bus service were supplied between the head of Grand Lake and Fredericton, it

would be possible for a tourist, without his own car, to view some of the most pleasant scenery in a province well noted for its beauty of landscape, under exceptionally favorable circumstances and without spending an undue amount of time.

The number of filling stations and garages throughout the country attest the prominent position which motor car travel holds in these provinces. Doubtless they are supported chiefly by local car owners, but every tourist who stops for gasoline, or to have some repairs made to his car, assists in keeping better employed the men already engaged in this work, or in making necessary a greater number of employees.

(3.) *Fishing and Hunting Licenses*

There arises the question of the relative merits of the systems of control for Salmon fishing in vogue in Nova Scotia and New Brunswick. The former province leaves open all her rivers to the licensed fishermen, whereas the latter has leased certain areas for the exclusive use of individuals or sportsmen's clubs. Each province champions its own system and there is something to be said for each.

Open fishing tends to attract more of the smaller sportsmen, but it also leads to more rapid depletion, or, if this is to be prevented, to costly patrol service. The New Brunswick plan, on the other hand, brings in a considerable amount of revenue through the sale of the leases, and attracts sportsmen who spend considerable sums in the province for the building of lodges and the maintenance of guides and patrolmen. It is a fairly certain guarantee against depletion, and as the leases have been given chiefly on the Restigouche, they have interfered very little with the more accessible salmon and trout streams.

Perhaps the explanation for these different policies is found in the dissimilarity between Nova Scotia and New Brunswick. New Brunswick, with her larger rivers reaching far inland, would appeal more to the big sportsman, and exclusive control over a remote section of a river would not meet with such opposition as would likely be true in Nova Scotia were her better streams to be leased in a like manner.

In both Provinces game preserves are established within which no hunting is permitted, the intention being to ensure a continuance of the wild game life of these parts in sufficient quantity to retain their reputation as being "The Hunter's Paradise."

With a sufficient supply of fish and game, sportsmen will continue to make their appearance every year and considerable sums will continue to be left in the Maritimes not only for licenses and leases but also for the valuable services of guides.

(4)—*Summer Homes and Cottages*

A considerable number of people have built summer homes in the Mari-

times, and this has assisted local industries to no small extent as practically all the materials are produced within this region. A few have built summer cottages to be rented either to residents of the Maritimes or to visitors. It is difficult to say how extensive is this practice, but in neither the New Brunswick or Nova Scotia publications is mention made of summer cottages which may be rented, and Prince Edward Island merely states that there are a few, with advice to communicate with the office of the Prince Edward Island Tourist Association for particulars.

With building material so reasonable, and efficient help so accessible as in any part of the Maritimes, cottages could be erected at a minimum of cost, comfortably, but not elaborately furnished, and rented at a remunerative rate. A few people from Ontario every year spend part of the summer in the Provinces-by-the-Sea, and were available accommodations better known, and an effort made to cater to the same type of trade as summers at Muskoka, this item of income to the Provinces would be considerably increased.

(5)—*Merchandise*

Since Mr. Neill's speech at the Annual Meeting of the Royal Bank of Canada on January 9th, 1930, much has been heard about the sale of merchandise to foreign tourists in Canada. Just how much is now being sold some are willing to hazard a guess, but nobody knows.¹³³ It seems quite obvious that there is a splendid opportunity to increase the sale of merchandise to American tourists; an opportunity which would be greatly enhanced were the Government to follow Mr. Neill's suggestion. In brief, this suggestion is that on high class goods the Government should levy a tariff somewhat lower than that levied by the United States, making it advantageous for the tourist to purchase while in Canada, taking back free much of the goods under the One Hundred Dollars exemption clause in the American tariff.

The advantages of merchandising luxury goods are well summed up in the Royal Bank's letter of January, 1930, in the following words:

"At present the cost of manufacture constitutes only about 50% of the ultimate selling price of the majority of the goods that are sold at retail. So far as many luxuries are concerned, the proportionate cost for distribution is much higher. For this reason, it is more profitable for a country to be engaged in the distribution of such articles than to manufacture them for sale in other countries."

Some merchants in various parts of Canada have been taking advantage of these opportunities. In the Maritimes, one establishment, at least, of which the writer knows, makes a specialty of high grade china, while another disposes of considerable quantities of linens, and practically all to the tourist trade. That there is room, however, for greater development, no one who knows the Maritimes will doubt, but the difficulty is found in conveying

to the merchant an appreciation of his opportunities and of the methods which should be employed to utilize them to the fullest advantage.

The Maritime Board of Trade draws its membership from the various Boards of Trade of the three Provinces, and if, at their Annual Convention, someone who understood the problem fully were invited to discuss the question, valuable suggestions might be widely disseminated by the members upon returning to their local boards.

It is essential that the merchant realizes:

- (1) That there are certain lines of goods which may be purchased advantageously in this country by American tourists,
- (2) That goods up to the value of \$100.00 may be taken into the United States without payment of duty.
- (3)—That the customer is attracted by proper window and counter display.
- (4) That courtesy and interest on the part of clerks are indispensable,
- (5) That the results are cumulative once the habit of buying is started.

Mention should be made of the considerable trade in local handicrafts which has sprung up of late. Hand-hooked rugs have come to be looked upon as attractive souvenirs and many items of homespun are purchased by visitors. The difficulty, of course, is to keep the quality within reasonable range of a suitable standard.

RELATIONSHIP OF TOURIST TRADE TO LOCAL INDUSTRIES

The Tourist Trade dovetails well into the general economic structure of the Maritimes, being especially closely related to Agriculture. Not only does the increased demand provide a profitable home market for meats, fish, fruits and vegetables, but many of the wayside inns supply the greater portion of the produce used from a small adjoining farm. The construction of cottages and over-night cabins creates a greater local demand for lumber, and, as has been mentioned before, the cost of construction is usually low. The handicrafts are stimulated, and the retail merchants are in a position to benefit through increased sales: in short, few branches of industry are left unaffected. It would appear that in no other single field is there so favorable an opportunity, with proper cultivation, for the further development of a lucrative trade.

CONCLUSION

True it is that the Maritimes lie a considerable distance from the centres from which they attract most of their visitors, it being 500 miles from Boston to Saint John, and 270 miles more on to Halifax. From Montreal the distances are: to Saint John 614 miles, and to Halifax 850 miles, and from

Toronto roughly 350 miles farther. What is more, on the American side, throughout the entire length of that territory which separates New York and Boston from the New Brunswick border, tourist attractions are many and the equipment is reasonably complete. Despite these disadvantages, the Maritime Provinces can count upon an appreciable increase in tourist traffic from year to year because of the freshness, variety and novelty of their scenery, the hospitality of the people, the relative abundance of fish and game, and because it may be said of all three, they are "Canada's Unspoiled Provinces."

CHAPTER VII.

The Agricultural Industry

In an excellent article by Professor Balcom,¹³⁴ "*Agriculture in Nova Scotia Since 1870*", it is pointed out that the efficiency of labor increased 48% on the principal products shown in the census figures for 1921 in contrast to 1881. It is further stated that a similar study of the other Maritime Provinces would show variations, but the same general tendency. Were it deemed necessary to establish the fact that general improvement has taken place, the work of Professor Balcom would be taken as a model in an examination of the other two Provinces; but the primary purpose of this study is not to convince the reader that progress has been made, but to endeavor to discover how further advances may be brought about.

Agriculture is vital to the three Maritime Provinces; it furnishes the largest amount of income of all the industries to the people, and gives work to 66.8% in Prince Edward Island, 30.5% in Nova Scotia, and, 40.7% in New Brunswick, of all males gainfully employed.¹³⁵ It plays a large part in the export trade of the Provinces by providing many cargoes of Apples and Potatoes, and is definitely allied to Lumbering and Fishing in so far as many engaged in these industries secure no inconsiderable proportion of their income from work upon the farm, either as employee or owner. Despite the importance of Agriculture, however, those engaged in the industry have labored under heavy handicaps, and, of these handicaps, soil fertility is one which causes most concern.

SOIL FERTILITY

In the *Report of the Agricultural Enquiry Committee for Nova Scotia, 1926*,¹³⁶ it is stated that the average soils of the Province are not naturally fertile, and although the statement is qualified by reference to climatic conditions, the admission is very significant. In a report on the soils of Nova Scotia prepared by Dr. Cumming and issued in 1923, this statement is supported with more authority, but, unfortunately, the publication is not at the writer's hand, making direct reference or quotation impossible. In the Reports of the Division of Chemistry, Dominion Department of Agriculture, references are frequently made to soil analyses, but the samples are not representative enough to warrant their being listed in support of the general statement made above.¹³⁷

Prince Edward Island affords a little more detailed information for in 1928 a report was published giving the results of analyses of fifty samples

taken from seventeen farms widely scattered throughout the Island.¹³⁸ In summarizing the results, the Dominion Chemist writes as follows:

"From the standpoint of fertility as measured by chemical analyses, the larger number of these soils are below rather than above the average of productive sandy loams, though only a few could be stated as distinctly poor."

Taking further advantage of this valuable report, it will be well to examine in some detail the results of the analyses in the light of the standards generally accepted as indicating degrees of soil fertility:

Concerning *Nitrogen*, the Report reads as follows:

"The larger number of our good soils contain between .1 and .2 per cent though many reach .5 and some—the richest soils of the Western prairies—may exceed 1.0 per cent of Nitrogen. Soils containing less than .1 per cent may prove, under favorable conditions for nitrification, fairly productive, but such generally show a remunerative response to nitrogenous fertilizers. Richness in Nitrogen is determined to a large degree by the organic or humus content, though the condition or stage of decomposition of this organic matter is an important factor in indicating the nitrogen's availability."

Of the fifty samples analyzed none contained more than .3%:

3 samples contained from	.2 to .3%	Nitrogen
24 " " "	.1 to .2%	"
21 " " "	.05 to .1%	"
2 " " "	less than .05%	"

PHOSPHORIC ACID

The Report reads as follows:

"The Phosphoric acid in Canadian soils of average fertility usually lies between .15 and .25 per cent. Some very good loams contain from .25 to .3 per cent and a few exceed the latter figure. The adequacy or otherwise, of Phosphoric acid in a soil would appear to depend largely on the accompanying amount of lime. Increased crop production has usually followed the application of phosphatic fertilizers to soils containing less than .15 per cent phosphoric acid."

and the following table shows the result of the analyses:

Class Percentage of Phosphoric Acid	Number of Samples
.15 to .25 -----	7
.1 to .15 -----	21
.05 to .1 -----	21
Less than .05 -----	1

THE AGRICULTURAL INDUSTRY

POTASH

"Our data indicates that good Canadian soils usually possess between .25 and .5 per cent of potash; less than .15 per cent has, in many instances, pointed to the value of potassic fertilizers."

The summarized results are:

<i>Percentage of Potash</i>	<i>Number of Samples</i>
.3 to .4 -----	5
.25 to .3 -----	16
.15 to .25 -----	20
.1 to .15 -----	6
.05 to .1 -----	3

LIME

"Lime ranks next in importance to potash and Phosphoric acid in a consideration of the mineral constituents of plant food. It also promotes nitrification, improves tilth, and by reason of the alkalinity, is of special value in correcting sour soils. Our experience goes to show that light and sandy loams containing less than .25 per cent of Lime (CaO) and clay loams less than .5 per cent will as a rule have their productiveness increased by a dressing of lime in one or other of its agricultural forms. Soils rich in organic matter such as muck and peaty soils, very frequently respond to an application of lime, and may with advantage be raised to 1 or 1.5 per cent of that element (CaO), especially when supplied in conjunction with phosphoric acid and potash. The continued use of sulphate of ammonia as a nitrogenous fertilizer will call for an occasional application of lime or ground limestone to prevent sourness."

Omitting the mention of color, all soils in the Province are classified as either "Sandy Loam" or "Light Sandy Loam", which makes all the more significant the facts in the following summary:

<i>Class Percentage of Lime</i>	<i>Number of Samples</i>
.25 to .5 -----	6
Under .25 -----	44

Unfortunately, similar data are not available for New Brunswick, but in the Report of the Division of Chemistry for 1914 the results are given of an experiment on the effects of different kinds, varying quantities, and various combinations of fertilizer upon the production of Potatoes.¹³⁹ After the potatoes were dug, it was found that when the marketable product was taken into account on the basis of 44 cents per bushel, the difference over non-fertilized check plots ranged from a minus quantity to \$62.77, and the following table shows the summarized results on the basis of profit for plots

where fertilizers were used over those where the growth was left entirely to the natural fertility of the soil.

Loss—4.

Profit—\$1—10	\$10—20	\$20—30	\$30—40	\$40—50	\$50—60	\$60—70
3	2	2	0	1	3	1

Of the four plots upon which a loss was incurred, one received an application of 500 pounds of Basic Slag; another, 350 pounds of Superphosphate; a third, 75 pounds Nitrate of Soda, 75 pounds Sulphate of Ammonia, and 350 pounds Superphosphate; while the fourth received 75 pounds Nitrate of Soda, 75 pounds Sulphate of Ammonia, and 500 pounds Basic Slag.

That plot which showed the greatest profit was treated with:

75	Pounds Nitrate of Soda
50	" Sulphate of Ammonia
50	" Superphosphate
200	" Basic Slag
60	" Sulphate of Potash

The question of the relative merits of various fertilizers is one which can be answered by the Agriculturists of the Province, but the recognition of the need of supplementary supplies of plant food is inescapable, even from the scanty evidence which has been produced.

The New Brunswick Societies, United, last year purchased 13,000 tons of chemicals, equal to about 17,000 tons of mixed fertilizers, and the total consumption for the Province will likely exceed double this amount. Large quantities are purchased in Prince Edward Island through the Potato Growers' Association, as well as independently; and the United Fruit Companies of Nova Scotia, Limited, have brought in their own supplies for many years. Agriculturists have preached the need of fertilizers, and the Illustration Stations of the three Provinces have been chiefly concerned with pointing out the advantages which may be derived from the proper application of chemicals to the soil. This situation has had far-reaching consequences upon the nature of the development of Agriculture in the Maritimes, as will be pointed out a little farther on.

A LAND OF SMALL FARMS

Farms in the Maritimes are relatively small. Certain sections, it is true, permit of fairly extensive operations, and the average acreage under cultivation on each farm is much higher in Prince Edward Island than elsewhere; but, for the most part, the land is rolling and divided into small plots by river, stream and hill¹⁴⁰. This results in inability to make the maximum use of farm machinery, and, as succinctly stated by one student of the economic problems of the Maritimes: "Not only have the farms not yet reached the margin of diminishing returns, but they have not attained to that position

where increasing returns from the use of machinery have begun." The condition brought about, therefore, by the necessity of using fairly considerable quantities of fertilizer, and inability to take the most advantage of economies made possible by machinery, has forced these Provinces to develop an agriculture which differs materially from that carried on where similar conditions do not prevail. Crops which give a large yield per acre, and which thrive better under conditions of intensive farming, have come to predominate.

RURAL POPULATION

The problem of the movement of population is as intriguing as it is difficult and the movement from the country to the city is part of this general problem.¹⁴¹ Such a trend has been taking place in practically all parts of the world, and the Maritimes have not escaped. The increased use of railways and motor trucks, with operators residing in the centres of population; more complex machinery which is built and repaired in the towns or cities; and the greater productive efficiency upon the farm, are all contributory factors. An increase in the percentage of the people residing in the cities as compared to those who are domiciled in rural areas does not always mean an absolute decrease in agricultural population; but in each of the three Provinces the Census figures from 1891 indicate an absolute decline in the population of the countryside, as shown below:

RURAL POPULATION—1891-1921

<i>Years (Census)</i>	<i>Prince Edward Island</i>	<i>Nova Scotia</i>	<i>New Brunswick</i>
1891.....	94,823	373,403	272,362
1901.....	88,304	330,191	253,835
1911.....	78,758	306,210	252,342
1921.....	69,522	296,799	263,432

Unfortunately, the figures are not available for the two earlier census periods; but the three decades which the available figures cover show a decided decline in all three Provinces, and in one period only was there an increase in the number, which is shown for New Brunswick in 1921 over 1911.

That changing technique in industry and the opening up of new agricultural areas have both had their influence goes without question, but it is very difficult to assign degrees of responsibility to each. The marked decline from 1891 to 1901, which continued throughout the next decade for all three Provinces, suggests very strongly, however, that the opening up of the American and, later, the Canadian West, had no small influence upon this Maritime region, but, on the other hand, the following figures for area in field crops, showing an increase for this period, suggest the presence of other factors than the bringing under cultivation of extensive tracts of more fertile soil.¹⁴²

AREA IN FIELD CROPS, 1871-1921 (IN ACRES)

<i>Years</i>	<i>Prince Edward Island</i>	<i>Nova Scotia</i>	<i>New Brunswick</i>
1871.....	.....	790,155	778,461
1881.....	467,211	942,010	849,678
1891.....	409,940	723,825	763,248
1901.....	447,737	730,146	897,417
1911.....	484,274	717,468	978,876
1921.....	552,184	807,858	1,171,305

Since the caption "Rural Population" covers more than those resident upon farms, it is not a good index to what has taken place in agriculture. The only figures which appear to be available having special significance are those given in the Census returns for "Males Engaged in Agriculture," and which cover the period from 1871 to 1921, as follows:

MALES ENGAGED IN AGRICULTURE—1871-1921

<i>Years Census</i>	<i>Prince Edward Island</i>	<i>Nova Scotia</i>	<i>New Brunswick</i>
1871.....	.....	49,644	40,306
1881.....	17,434	59,090	40,590
1891.....	21,411	59,331	50,280
1901.....	20,720	52,836	48,304
1911.....	19,134	47,167	44,840
1921.....	18,057	47,771	45,972

The marked agreement between the trend shown by the above figures with that of Rural Population gives added support to the contention that outside influences were being keenly felt in the Maritime Provinces from 1891 to 1901. The decided falling off in numbers for all three Provinces, coinciding with an increase in acreage in field crops, small though it is, gives eloquent support to those who defend the Maritime farmers against the accusation of tardiness in meeting changing conditions.

INFLUENCE OF OTHER INDUSTRIES

Were Agriculture the only industry concerned in taking into account the figures for "Males Engaged in Agriculture," the problem would be much simpler than it is; but in all three Provinces in the earlier days Fishing, Lumbering, and Farming were combined in such a way that conditions in any one would affect to some degree each of the others. Prince Edward Island exhausted her Timber supplies at a relatively early period in her history, and today the Lumbering industry is of little importance. Fishing, too, plays a small part in her economy, and the figures for recent censuses can be taken as being fairly representative of human effort expended upon farms. In both of the other Provinces this is not true. Many who are registered as farmers derive much of their income from Lumbering, Fishing, and, in Nova Scotia, from Mining. In New Brunswick the answer often given to an inquiry concerning the backward state of agriculture is that the people are primarily lumbermen. In Nova Scotia the situation was summed up by Professor

Melville Cumming in his paper before the Dominion Royal Commission, 1914, as follows:¹⁴³

"Nova Scotia is a country of many industries, and farming, as an industry, has suffered because a great many of those engaged in the business also devote a considerable portion of their time to Lumbering, Fishing, Mining, etc."

To emphasize the situation, as well as to drive home the fact that a study of agricultural statistics alone is very inadequate, a table has been prepared showing the ratio in Males engaged in Agriculture, Field Crops and Improved Land, between Prince Edward Island and each of the other two Provinces:

Years (Census)	Province	Males Engaged in Agriculture	(Acres)	
			Area in Field Crops	Area in Improved Land
1891—	Prince Edward Island.....	100	100	100
	Nova Scotia.....	277	177	278
	New Brunswick.....	235	186	210
1901—	Prince Edward Island.....	100	100	100
	Nova Scotia.....	255	163	173
	New Brunswick.....	233	200	194
1911—	Prince Edward Island.....	100	100	100
	Nova Scotia.....	247	148	163
	New Brunswick.....	234	202	188
1921—	Prince Edward Island.....	100	100	100
	Nova Scotia.....	264	146	129
	New Brunswick.....	255	212	178

A simple reading of this table shows that both in respect to Improved Land and Area in Field Crops Prince Edward Island is in a much more favorable position than either of the other two Provinces, and in more recent years her advantage over Nova Scotia has been materially increased. Undoubtedly the comments made above explain to a large extent the reason for this difference, but in Nova Scotia the acreage under cultivation dropped from 1,993,697 acres in 1891 to 992,467 in 1921; and in New Brunswick from 1,509,790 in 1891 to 1,368,023 in 1921; while Prince Edward Island showed little change, increasing from 718,092 in 1891 to 767,319 acres in 1921. The falling off in acreage in Nova Scotia is no doubt due in no small degree to the decline in Beef Cattle, consequent curtailment of pasturage, and the marked concentration in Fruit production in the Annapolis Valley. A falling off in the rearing of Beef Cattle has also taken place in New Brunswick.

To interpret these figures fully, as already indicated, would require a detailed study of agricultural development, a study very much needed and one involving a great deal of work; but this close inter-relationship of industries which has been pointed out, and upon which the table throws some light, is more characteristic of the Maritime Provinces, perhaps, than of any other part of Canada, and more will be said about it as the discussion proceeds.

THE DAIRY INDUSTRY

The early exhaustion of the natural fertility of the soils in many parts by excessive cropping with Oats so much demanded by the Lumber industry necessitated changes in agricultural technique in the last two decades of last century. These changes were assisted, or perhaps even forced, by the increased demand for both Horses and Oats, and American tariffs against Potatoes. In the hard years of the 'eighties and 'nineties the Dairy industry received much attention. It was in 1882 that the first Cheese factory was established in Prince Edward Island,¹⁴⁴ and during the early 'nineties this industry was gradually developed through the work of representatives of the Dominion Department of Agriculture. Both Nova Scotia and New Brunswick made an earlier start in Cheese production, but only in Nova Scotia had it shown much progress up to 1881. The production of Creamery Butter followed rapidly upon the establishment of the Cheese industry.¹⁴⁵ Within ten years from the opening of the first Creamery in New Brunswick in 1884, each of the other two Provinces had followed suit, and by 1901 the industry was well established.

A rapid rise and subsequent decline in the production of Factory Cheese was to be expected, with increasing demand on the part of urban centres for fresh milk, and the stimulus given of recent years to the raising of bacon hogs; while, at the same time, the increasing predominance of potato growing in certain areas interfered to no small extent with stock raising. Unquestionably, the production of milk has increased considerably, and this with no appreciable addition to the number of milch cows; while at the same time the production of Dairy Butter maintained a noticeable increase in 1921 over 1881, despite the unfavorable circumstances of the former year.¹⁴⁶ Fluctuations in the figures suggest many influences at work: outside competition, differential prices for farm products, and the unusual situation brought about by War conditions. The work of stock promoters has also made its impression, and, as intimated above, the decline in Cheese production can be attributed in no small degree to the increase in high grade hogs. Mr. R. M. Elliott, Manager of the Maritime Section, Canadian Livestock Co-operative Company, states:¹⁴⁷

"The Maritimes have the highest percentage of select Bacon Hogs to be found in Canada."

THE PROBLEM OF FEED

With the improvement in the quality of Dairy stock there has arisen the problem of feed, which has caused no small concern to the agriculturists of the Maritime Provinces. The low fertility of the soil, necessitating the use of fertilizers, makes grain growing expensive; and the cost mounts still higher owing to the difficulty of large scale operations, which leads to greater economy in the use of machinery. These two conditions combine to make the raising of Root Crops most profitable, in the growing of which the four year

rotation is generally used, giving one year of root crops, one year of grains, and two years of hay. The principal grain is oats and this combination leaves the protein content of the feed lower than is considered a balanced ration. In the endeavor to make up this deficiency, considerable quantities of oil cake and wheat feeds have been brought in. During last year the Wheat Pool took steps to make more accessible to the Eastern farmer the coarse grains of the Prairies.¹⁴⁸ In the Maritimes, agriculturists have for years urged upon the farmers the necessity of growing more of their own feed; and while their advice has been followed to some extent, the success does not seem to be at all commensurate with the energy expended. There is nothing new in the phenomenon of a dairy stock country importing large quantities of feed, and, when such a general condition prevails, it is difficult to escape the conclusion that there is a fundamental justification which is not the indifference of the farming population. Undoubtedly improvements still can be made in the raising of those crops most suited to these parts, but to expect entire self-sufficiency is to court inevitable disappointment.

WHEAT

The first year when acreage for the different grain crops is given in the Census returns is 1891 when Prince Edward Island is credited with 44,703 acres in Wheat, but this figure fell off with fluctuations until it reached the low point of 26,099 acres in 1928.¹⁴⁹ The same story is told of New Brunswick where 1901 saw 26,990 acres in Wheat, which contrasts noticeably with 8856 acres for 1928. In Nova Scotia, as in New Brunswick, the highest figures given are for 1901 when there was an acreage of 16,334; and, as in the case of the other two Provinces, the low point was reached in 1928 with only 6021 acres.

Oats afford a more pleasing picture, but the upward trend is not startling.¹⁵⁰ Prince Edward Island shows an increase in production in 1929 over 1871 of 2,395,000 bushels, Nova Scotia an increase of 1,333,000 bushels, while New Brunswick maintains a fairly good acreage, with increased production. The Lumber industry still requires considerable quantities of feed, but the demand is by no means what it was some years ago, and the maintenance of fairly good acreage indicates that more attention is paid to the proper feeding of dairy stock.

ROOT CROPS

When attention is turned to the examination of Root crops used as fodder a more encouraging situation presents itself. Unfortunately, the figures for different types of roots, excepting potatoes, are not given, but are lumped together under "Other Roots" or "Turnips and Other Roots", and the quantities of Turnips, Beets and Carrots which would be sold for domestic use would be difficult to estimate; but the emphasis that has been laid upon the growing of roots for fodder, whether for cattle or hogs, leaves no doubt

as to the evidence which the figures provide. To afford an appreciation of the development which has taken place, the production for 1871 as contrasted with the average production for the five years 1925 to 1929 is given:

TOTAL PRODUCTION OF TURNIPS AND OTHER ROOTS

	<i>Prince Edward Island</i>	<i>Nova Scotia</i>	<i>New Brunswick</i>
	<i>Bushels</i>	<i>Bushels</i>	<i>Bushels</i>
1871.....	398,000	619,000	702,000
Average 5 Years—1925-29.....	4,435,000	5,638,000	4,425,000

Buckwheat seems to have fallen into disfavor even in old New Brunswick.¹⁵¹ The epithet of a "Buckwheat Farmer" is decidedly unpopular in both Nova Scotia and Prince Edward Island, but it has not so much significance in New Brunswick where many good farmers still raise considerable quantities. Buckwheat is not so universal a crop as many other grains and on this account it might not have received the same consideration from agriculturists that it deserves. Some dairymen in New Brunswick claim that it makes an excellent milk producer when mixed in proper quantities with other grains, and its value as hog feed has long been recognized. The Experimental Farm at Fredericton, taking cognizance of the value of Buckwheat to the New Brunswick farmer, is endeavoring to produce a variety of better quality and affording a greater yield.

CORN

Although considerable quantities of fodder corn have been raised during the past few years, especially in Prince Edward Island, this feed seems definitely to have gone out of favor owing to the better satisfaction received from the standard crop of "O. P. V." (Oats, Peas and Vetches).

HAY

Basic to the Livestock industry is the abundance of hay and pasturage to be found, especially in Nova Scotia and New Brunswick. Hay was a staple export for years from Prince Edward Island, as well as from New Brunswick and Nova Scotia where large quantities were absorbed also by the local lumber industry. This latter market has fallen off very decidedly of recent years; and, in the absence of remunerative markets outside, the chief outlet would seem to be the dairy industry. Following upon the experience gained by Germany during the War, many in these Provinces have discovered that they were amply rewarded for the use of chemical fertilizers upon, and intensive cultivation of, their pastures. In examining the figures for the average production of Hay for the five years 1925-1929, Nova Scotia is found to be in the lead with 1.67 tons per acre, Prince Edward Island next with 1.51, while New Brunswick is not very far behind with 1.44.¹⁵² The higher yield in Nova Scotia is unquestionably due to the abundance of dyked land, which also exists, but to a smaller extent, in New Brunswick. Although Prince Ed-

ward Island has a lower average yield than Nova Scotia, the practice of fertilizing and cultivating pastures is more common there, as would be expected.

What seems to be happening, therefore, in respect to the problem of feed is that the farmers are concentrating upon roots, hay, oats, and other roughage, depending upon outside sources to supply the deficiency in protein. Since this policy has persisted for many years in the face of a strong campaign for the production of more grains, it must have a sound economic basis. Perhaps the rapid rise in the production of fish meal, which proceeds *pari passu* with the development of the fresh fish business, will eventually obviate the necessity for importing oil cake and other protein feeds.

LIVESTOCK—SWINE

Along with the growth of the dairy industry goes as a rule increased production of hogs. In examining the figures available since 1871 this increase is not so noticeable as one would expect, but undoubtedly part of the explanation is to be found in the relatively recent movement to raise none but the best bacon type hogs.¹⁵³ In Denmark about two and one-half hogs are kept to every milch cow, whereas in the Maritimes the best showing is made by Prince Edward Island where the average seems to be slightly over one; New Brunswick stands second and Nova Scotia third with about .75 and .40 respectively. To facilitate comparison and make the picture more complete the following table is given showing the hogs and milch cows for each of the three Provinces:

	Prince Edward Island		Nova Scotia		New Brunswick	
	Milch Cows	Swine	Milch Cows	Swine	Milch Cows	Swine
*1871	— 62,984	52,514	122,688	54,162	83,220	65,805
1881	— 45,895	40,181	137,639	47,256	103,965	53,087
1891	— 45,849	42,629	141,684	48,048	106,649	50,945
1901	— 55,694	47,624	127,945	42,015	105,992	50,243
1911	— 52,109	56,377	129,274	63,380	108,557	87,393
1921	— 48,114	39,172	119,733	47,457	106,486	75,905
1925	— 56,295	52,114	137,273	44,670	111,225	60,376
1926	— 56,947	49,711	146,312	45,343	116,530	71,568
1927	— 47,126	53,665	142,762	50,923	111,304	77,307
1928	— 46,439	52,653	137,867	55,184	109,068	76,072
1929	— 44,728	54,285	141,207	47,458	105,667	66,467

*The Census returns for the year 1871 for Milch Cows include "Other Horned Cattle."

Considering the work that is now being done by Livestock promoters and by District Representatives of the Provincial Governments to educate not only the farmers but those who will shortly be taking control, much progress can be expected within the next decade.

SHEEP

To a large extent Sheep are a frontier animal. The noticeable decline in their numbers in the Maritimes can be largely attributed to the cost of fencing, internal parasites, and, to a lesser extent, to the ravages of dogs and wild animals.¹⁵⁴ Internal parasites seem to be the chief drawback and, while they can be controlled, the extra expense and care necessary make more attractive other lines of stock or forms of agriculture. While there has been a decline in the number of sheep, the quality has steadily risen, and the facilities which have been recently provided for marketing through the establishment of Shipping Circles might be expected to have favorable results in the near future. On farms that are well organized, and where the care of the sheep is well understood, good money seems to be made on this branch of stock. One man in New Brunswick, who was taking about \$1800.00 per year off a fifty-five acre farm, stated to the writer last Summer that his easiest money came from his sheep. There is ample room for exploitation of this industry in both Nova Scotia and New Brunswick, but fair quantities are already shipped out of the Provinces and very rapid expansion might not be desirable. In the raising of sheep it must be always remembered that there is the problem of joint products—Meat and Wool—the market for either of which influences the price for the other. In 1929 there were shipped out of the Maritimes 24,767 sheep, the great majority of which found a market in Quebec, only 1175 being listed as exports.¹⁵⁵ The local market is by far the most important, and increasing sales there as well as in Ontario and Quebec will take care of ever-increasing supplies.

BEEF CATTLE

Cheap Western Beef has pretty well captured the Maritime market from the local producers. The rich hay lands along the Bay of Fundy afforded large quantities of fodder; and the raising of beef cattle, along with the production of apples in the Annapolis Valley, is what was understood as "Mixed Farming." Whether or not it is possible to again produce on a competitive basis for the home market remains to be seen. The Experimental Farm at Kentville is endeavoring to develop a strain of cattle that will serve as general purpose stock, yielding a fair quantity of milk and at the same time retaining its beefing qualities.

A study of the Report of the Dominion Bureau of Statistics on Livestock and Animal Products reveals the fact that export trade in Swine, Sheep and Cattle has diminished to a point where it is of insignificant importance. The Swine and Sheep which are not utilized in the Maritimes find a market in Quebec, and, to a lesser extent, in Ontario. With Livestock, shipment is generally from the Maritimes to Central Canada, but with Meat Products the process is reversed (Mutton excepted). In 1929 there were shipped into the

Maritimes from other Provinces, chiefly Ontario and Quebec, the following quantities of Beef and Pork:

INTERPROVINCIAL SHIPMENTS OF BEEF AND PORK TO THE
MARITIME PROVINCES, 1929

<i>To Prince Edward Island:</i>			
From	<i>Beef Pounds</i>	<i>Pork—Cured Pounds</i>	<i>Pork—Fresh Pounds</i>
Quebec.....	23,873	.....	42,880
Ontario.....	3,360	33,780	.....
<i>To Nova Scotia:</i>			
From			
Quebec.....	420,107	374,119	51,850
Ontario.....	2,548,554	432,493	97,230
Manitoba.....	54,842	.....	.....
<i>To New Brunswick:</i>			
From			
Quebec.....	674,172	677,940	115,783
Ontario.....	1,255,836	609,501	81,150
Manitoba.....	67,831	11,685	
<i>Total to Maritimes—</i>	<i>5,048,575</i>	<i>2,139,518</i>	<i>388,893</i>

Unfortunately, details as to exports of Livestock are not given, but it is commonly known that of what is sent out of the Maritimes most goes to Newfoundland. There is a small trade between New Brunswick and Maine, chiefly in milch cows. What is true of exported Livestock is true also of Meat products, Newfoundland being the Maritimes best customer, although small quantities find their way to the West Indies.

The marked falling off in the production of Beef Cattle was no doubt quite inevitable, but it has been compensated in a large degree by the raising of high grade dairy stock, with exceptionally good standard attained in the quality of sheep and hogs. In this transition the Maritimes have been greatly assisted by the work of the Livestock promoters of both the Provincial and Federal Governments, and by the services of the Canadian Livestock Co-operative Company.

POULTRY AND EGGS

The diversification which has been developing found a place for Poultry and Eggs late in last century. Quantity was the first criterion, but competition and the excellent work of Mr. T. A. Benson of the Federal Department of Agriculture, in 1912, brought the question of quality to the fore in Prince Edward Island.¹⁵⁶ The Prince Edward Island Co-operative Egg and Poultry Association, Incorporated, and the tireless efforts of all connected with the movement, has placed Island Eggs on a par with the very best. Taking a lesson from that Province, Nova Scotia and New Brunswick in 1925 organized the "Maritime Co-operative Egg and Poultry Exchange". The American market at first afforded the chief outlet for the surplus quantities, but the

persistent rise in United States tariffs, and the increasing per capita consumption of eggs in Canada, has shifted the market from Boston to Montreal. Despite the progress that has been made, the Maritimes are not to be permitted to rest content with the good work done in the past, for as New Zealand Butter and Australian Lamb have been served on Maritime tables, there is a possibility that British Columbia eggs may be eventually found upon the Maritime markets.

THE FOX INDUSTRY

Perhaps the most spectacular of all industries which have profoundly affected agriculture in the Maritime Provinces is that of the raising of Silver Foxes, which started in Prince Edward Island and developed there to the highest point of efficiency. It was in the 'nineties that the first successful fox farm was begun and another type of livestock added. The industry spread to New Brunswick and Nova Scotia, the foundation stock being obtained from the Island; and in 1927 there were in Prince Edward Island 720 fox farms, in Nova Scotia 313, and in New Brunswick 296.¹⁵⁷ In all three Provinces the majority of farms have less than twenty foxes, and the following table will show the classification according to number of foxes:

FARMS HAVING AT THE END OF THE YEAR

	Total Fox Farms	Less than 10 Foxes	10 to 19 Foxes	20 to 29 Foxes	30 to 39 Foxes	40 Foxes and over
Prince Edward Island.....	720	302	180	89	40	109
Nova Scotia.....	313	146	96	33	15	23
New Brunswick.....	296	86	113	38	21	38

The estimated value for all foxes on farms in this same year was slightly over three and one-half million dollars for Prince Edward Island, \$740,000 for Nova Scotia, and \$1,170,000 for New Brunswick. The raising of foxes interferes no more with agriculture than does the raising of any other stock.¹⁵⁸ The table above shows that the majority of farms have a relatively small number, and these fit in with the general scheme of farming in a most admirable way. The foxes are fed meat trimmings, fish, eggs, milk, and often biscuits and bread, all of which are local products, excepting the rice which is a constituent of the biscuits and bread. The good prices received for pelts, and the relatively high prices for breeders, secure to these Provinces a very respectable income; and the fox industry has made possible good prices for certain types of meat which were formerly looked upon as by-products, being sacrificed for whatever they would bring. The heavy demand for fox biscuits has laid the foundation for a small, but remunerative, industry in both Prince Edward Island and New Brunswick, from where the products are shipped to all parts of Canada, and have even followed the shipping of live foxes to foreign countries. The adoption of wooden floors as a prevention against parasites has led to a respectable industry in the so-called "Pup-Pens".

THE AGRICULTURAL INDUSTRY

FRUITS AND VEGETABLES

The Apple Industry in Nova Scotia has been so much under discussion of late and is of such importance to that Province and the Maritimes in general, that it has been thought advisable to give it special attention, and, therefore, it has not been included under the general heading of "Agriculture."

SMALL FRUITS

A difficulty which always faces the Maritime farmer is the absence of any substantial local market, and the distance it is necessary to go to secure any centres of considerable population. This difficulty is most evident in the production of small fruits, as, owing to the high cost of shipping less than car load lots, it is necessary to make up a complete car load before exports can be made with profit. This is not true in the region of Yarmouth where there is direct steamship connection with Boston, but in regions less fortunately situated the difficulty has had to be met by co-operative action. Two striking examples of successful co-operation in the marketing of Strawberries came to the writer's attention during the Summer of 1930: one at Masstown, Colchester County, and another at East River, Pictou County, both in the Province of Nova Scotia. Not only have these organizations shipped independently to the Boston market, but they have occasionally co-operated in making up a car for joint shipment. As a result of their efforts the quality of the fruit has been greatly improved, and the increasing demand of the home market is lessening the exports out of the Province.

Considering the progress which has been made in Strawberry culture in both Nova Scotia and New Brunswick, it should be possible in the very near future to establish at least a small canning industry somewhere near either Sackville or Truro.

BEANS AS A CASH CROP

Evidence of the genius of the Maritime people for novel undertakings is found in the small but growing industry for the canning of Wax Beans. At Livingstone's Cove in 1924 the proprietor of a Lobster Canning factory conceived the idea of cutting down the overhead by utilizing the plant for the canning of beans during the months when lobsters were not available. The Department of Agriculture, ever on the watch for new sources of income for the people, perceived the possibilities in this development, and to-day there are at least three factories:

- (1)—At Meteghan,
- (2)—At Waterville, and the other,
- (3)—At Caledonia,

one of which still bears the characteristic stamp of the pioneering plant. In many of the districts where similar operations are possible, general farming conditions are not the best, and an outlet for such a cash crop will go far to materially improve the economic position of the community.

POTATOES

Potatoes have been a staple crop of the Maritimes since the beginning. The sandy loams, with good drainage, produce this tuber to great advantage, and the Island Blues soon won for that Province the familiar title of "Spud Island". Persistent cropping with Potatoes and Oats eventually diminished the natural fertility of the soil, and this, coupled with United States tariffs which tended upwards from the imposition of a fifteen cents per bushel duty in 1874, was responsible for a decline which set in in the 'eighties and continued for several decades. The following table shows the production from 1871 and the acreage from 1891 according to the censuses, along with the averages for the years 1925-1929:

TOTAL PRODUCTION OF POTATOES IN THE MARITIME PROVINCES

<i>Prince Edward Island</i>		<i>Nova Scotia</i>		<i>New Brunswick</i>	
<i>Acres</i>	<i>Bushels</i>	<i>Acres</i>	<i>Bushels</i>	<i>Acres</i>	<i>Bushels</i>
1871 —	3,376,000	.....	5,561,000	.....	6,562,000
1881 —	6,042,000	.....	7,378,000	.....	6,961,000
1891 — 43,521	7,071,000	44,154	5,114,000	42,703	4,828,000
1901 — 33,405	4,960,000	37,459	4,270,000	40,330	4,588,000
1911 — 30,610	4,203,000	30,827	3,531,000	40,433	5,219,000
1921 — 31,716	4,832,000	34,507	4,390,000	62,769	8,411,000
Average—5 years, 1925-					
1929 — 42,436	7,469,000	30,083	4,838,000	45,439	8,648,000

In Prince Edward Island the acreage under Potatoes did not equal 1891 until 1927, and the average for the given five years is slightly less; but the average production for 1925-1929 surpasses the exceptionally good crop of 1891 by nearly 400,000 bushels. Nova Scotia has not yet reached the high peak of the 1891 acreage, neither has she surpassed in production the figures for that year. New Brunswick worked under slightly different circumstances from either of the other two provinces, bringing new areas under cultivation and changing over to a considerable degree from Lumbering to Farming. In 1921 she had over 62,000 acres in potatoes, produced nearly eight and one-half million bushels, and, although acreage fell off, the average production figures for the years 1925 to 1929 showed some gain over the previous high mark.

With tariffs making difficult of access the natural markets in the Eastern States, the Maritime Provinces were faced with three alternatives:

- (1.) To seek out other markets,
- (2.) To turn their efforts to the production of other commodities, or,
- (3.) To create a demand for their product which would enable it to surmount the tariff barriers.

They did all three.

Potatoes, giving relatively high yield per acre, are able to bear the cost of fertilizers much better than almost any other crop. The Maritimes adopt-

ed more scientific methods of farming, introduced the most desirable species, and eventually produced a commodity which commands a premium on many markets. Prince Edward Island led the way, improved her stock, and under the skilful direction of Mr. Paul A. Murphy (now Doctor Murphy) ventured into the Seed Potato business, in which she now holds the premier position. Last year, of the total acreage of Seed Potatoes entered for inspection in the New England States and the Maritimes, Prince Edward Island accounted for 55%, and of that which passed inspection for 58%. Seed Potatoes are in demand in Southern countries where the stock has to be regularly renewed;¹⁵⁹ and although American tariffs do not discriminate between seed and table stock, this higher grade product, which is essential to the Southern States, can best surmount such barriers. To reap the fullest advantage, the potato growers, having had a good example set them by Mr. Benson in organizing egg circles, decided to form an organization through which most of their product could be marketed, and The Prince Edward Island Potato Growers' Association,¹⁶⁰ under the careful guidance of Mr. J. W. Boulter, markets not only potatoes, but a fair quantity of turnips. Through the same organization considerable savings are made by the purchase of fertilizers in large quantities. What has been said of other branches of agricultural activities supplies sufficient evidence of the diversification which has taken place; making more stable the agricultural industry than when it was dependent chiefly upon one crop.

Nova Scotia met the situation by an improvement in quality, as did the Island, but the escape which she found was a transfer to the production of apples rather than to seed potatoes. The apple growing district was, and still is, the chief potato area; but the following figures for Kings County will illustrate how the Annapolis-Cornwallis Valley gradually diminished its dependence upon this crop:

AREA IN POTATOES IN KINGS COUNTY, N. S.

<i>Year</i>	<i>Acres</i>
1871 -----	8160
1881 -----	9792
1891 -----	6266
1901 -----	5895
1911 -----	5703
1921 -----	5066
Average, Five Years,	
1925-1929 -----	4073

In New Brunswick much new soil has been put under potatoes, while older regions nearer the centres of population have moved into other lines of production. Victoria and Charlotte Counties, following the example of their cousins in Aroostook, Maine, have staked their all on Irish Cobblers and Green Mountains; and while quality is a major consideration, emphasis has

not yet been placed upon seed in preference to table stock. Gloucester County has followed the lead of Prince Edward Island in so far as seed potatoes are given first consideration.

Potatoes hold a rather important place in the working man's dietary, and, on that account, the demand is relatively inelastic; at the same time there is the decided uncertainty as to the quantity of production; two circumstances which lead to rather wide fluctuations in price. A speculative element enters into this type of farming which adds a certain allurements; for a few bad years when the farmers become heavily involved in debt are often more than compensated by one good season.

In addition to the uncertainty of yield and price there are the trade regulations of other countries. American tariffs have been so high for many years that it has been only in seasons of exceptional prices that considerable quantities of potatoes, other than seed, have been able to make their way across the border. Concentration, therefore, upon the West Indian markets, chiefly Cuba, followed; much to the discomfiture of Nova Scotia, who was first in the field. Now Cuba is endeavoring to raise most of her own potatoes and has a tariff which from November 1st to July 1st is almost prohibitive; yet, of the many potatoes still imported, Canada accounts for about 59%, practically all of which comes from the Maritimes.¹⁶¹

With the American market virtually closed, and the demand in Cuba being more than taken care of, it is necessary to seek out new markets. Undoubtedly there are some opportunities for expanded trade in the West Indies, but the buying power in these Islands is relatively low. Newfoundland takes small quantities, and of late years Prince Edward Island and New Brunswick potatoes have been selling at a premium in the Ontario market. For each of the two years, 1929 and 1930, approximately two thousand car loads, about one and one-quarter million bushels, have sold at a premium in Ontario.¹⁶² The markets most likely to permit of any considerable expansion in the near future are Brazil and Argentina. In these markets, however, crates are required, as barrels are not acceptable and bags are hard to sell.¹⁶³

An increase in potato acreage in the near future does not seem at all likely, but, on the contrary, a reduction might be looked for. This will necessitate more diversified farming in certain regions, and in some regions more specialization in other directions. As the production of apples in Nova Scotia helped to relieve the pressure on the potato industry, perhaps a certain amount of assistance to New Brunswick might be looked for from her apple industry. From near Colchester to above Woodstock, on the Saint John River, a high grade of the varieties most in demand is produced; ¹⁶⁴ and the proximity of this section to the Montreal market in contrast with the Annapolis Valley will give them an advantage upon this market where most of their apples are now sold.

The co-operatives and dealers handling the potatoes of all three prov-

inces are keen to make the best showing possible, and a compulsory inspection introduced last year received the fullest support of all concerned. They cannot afford to lose any opportunity to further improve the quality. The use of new sacks with proper labels ought to be made more general. The requirements of the markets should be carefully studied and where one form of package is given preference over another, the customer's taste must be respected. More use could be made, too, of the advice received from Trade Commissioners. Such suggestions no doubt have been already called to the attention of those responsible for the marketing of the potatoes from this area, and the advance made in the past few years leads one to believe that they will be followed.

THE INFLUENCE OF URBAN CENTRES

The growth of centres of population has had its influence upon agriculture in the Maritime Provinces. The demand which arises for milk, cream, and other products of the dairy, as well as for vegetables and fruits, permits of specialization on one hand and the cutting down of overhead costs on the other. The preponderance of dairying in the Kennebecasis Valley, whence Saint John derives most of its milk supply; and truck farming in Kings and Queens Counties within relatively easy reach of the city, are noteworthy examples of the influences of a near-by market. The growth of Sydney and other centres in Cape Breton dependent primarily upon Coal mining and the Iron and Steel industry has influenced agriculture in eastern Nova Scotia in no small degree; and formerly, more so than at present, was of material advantage to the farmers of Prince Edward Island. Perhaps the most outstanding example of the influence of Sydney and neighboring centres is to be seen in the Margaree Valley; not because most of the supplies come from this region, but because the farmers here have adapted their production and marketing methods to the needs of this market. Without direct rail connections it was necessary to wait for the building of roads and the coming of the motor truck before the fullest advantage could be taken of this new outlet. Several years ago one enterprising farmer is reported to have begun the practice of trucking his produce to town, but so much time was spent in doing the hauling that when the suggestion was made of a local co-operative he was quite willing to fall into line; and the Margaree Producers' Association was formed, which has been functioning well ever since. Following this successful experiment, the N. E. Margaree Producers' Association, and the St. Joseph du Moins Association were organized; while the people of Cheticamp made use of the shipping clubs already organized there through which to market their produce in Sydney. It would be possible to continue mentioning special instances of the outstanding importance of the growth of urban centres to the agricultural areas, but such an influence is well understood and it remains only to point out that perhaps the local market is of more importance to the

Maritimes than to many other areas. The soil lends itself most readily to the production of those commodities which bring the best prices in the consuming market, and which are of necessity produced under conditions of relatively intensive farming, the most economical operations in a country where small farms are inevitable. What is more, it affords an escape from so large a dependence upon the major export crop: Potatoes—securing, of necessity, an outlet outside of Canada and meeting with ever increasing difficulties owing to tariff barriers; a crop for which there is a relatively inelastic demand, a wide fluctuation in the quantity produced, and consequent violent swings in the price received.

INTER-RELATION OF INDUSTRIES

In no field of activity in the Maritimes is the inter-relation of industries more strikingly visible than in agriculture. The influence of urban centres has just been pointed out. The growth of the fox industry and tourist trade have been also mentioned, and attention has been called to lumbering and fishing in so far as both are related to agriculture. In certain instances the development of some, and the waning of other industries has led to specialization, but diversified operations are the rule. It is not uncommon to find a farmer deriving his income from lumbering or the cutting of pulpwood, work done upon the highways; and mixed farming, which might include the keeping of cows, raising of sheep, the growing of potatoes and production of eggs, along with the raising of a fair amount of feed and a variety of products for family use. This diversification, especially when it involves work to take the farmer off the land, is the despair of many of the scientific agriculturists of these parts; but, while it brings its difficulties, unquestionably it has been the only means whereby these operators have been able to make both ends meet and even to overlap a little. Although this diversification may not be conducive to the very best technique in agriculture, it is well that those engaged in promotion work take cognizance of the fact that it is essentially characteristic of many parts of the Maritimes.

PROBLEM OF DIVERSIFICATION AND SMALL UNITS

The diversified interests of the Maritime farmers, and the small size of the farms which they operate, make it difficult for them to achieve the highest degree of efficiency in their work and to secure and utilize the information necessary for the success of their industry. This is not a peculiarity of agriculture, for manufacturers and traders who are operating small units under comparative circumstances are likewise handicapped in securing information regarding markets, technique of production, and the reduction of overhead, but the agriculturist is, perhaps, a little harder to reach, and, therefore, ideas spread more slowly. The Governments have recognized this difficulty and through their extension work are endeavoring to bring to the farmer the latest information on the best methods of production. The Federal Govern-

ment lends a hand by putting promoters in the field, by the maintenance of experimental farms and illustration stations, by the encouragement of better methods and higher grade stock through joining with the Provinces in granting bonuses, and by financial assistance to the Provincial Governments through the Agricultural Instruction Act of 1913.¹⁶⁵ A considerable amount of over-lapping occurs which could be avoided were all those engaged in the same line of production work responsible to one Director. This would necessitate close co-operation on the part of Provincial and Federal Governments where both make their contributions; and such an arrangement, while perhaps difficult, ought not to be beyond the bounds of achievement.

But direction is required for more than the scientific aspects of farming, as farmers are faced with problems of marketing as well as problems of production. The Dominion Government apparently has recognized the need for more research work along the lines of economics by the establishment of the Agricultural Economics Branch of the Department of Agriculture under the direction of Dr. J. F. Booth; and the publication of the "*Economic Annalist*" to make known to all concerned what this new Department is accomplishing, and to collate information from a variety of dependable sources. This is certainly a move in the right direction and perhaps the near future will witness a rapid extension of service; for as yet the connection between the man in the field and the research laboratories, whether agricultural or economic, is very weak.

The Empire Marketing Board has done considerable in analyzing methods of research and the dissemination of technical knowledge within the Empire, and the results of their investigations are to be found in three publications:

"The Dissemination of Research Results among Agricultural Producers"—September, 1930.

"The Survey Method of Research in Farm Economics"—January, 1929.

"Agricultural Economics in the Empire"—October, 1927.

This work done by the Empire Marketing Board might well serve as the basis for a special study of conditions in the Maritimes, especially in respect to the vital problem of disseminating knowledge already available. Although suggestions might be made that would lead to improvements, the question is large enough and sufficiently involved to justify special investigation; and a suggestion will be made later on in connection with similar problems in other fields as to how this investigation might be best undertaken.

At the outset of this discussion on agriculture, the small size of the farms, which made it impossible to take fullest advantage of machine operations, was mentioned as one of the fundamental problems of agriculture in these Provinces. With few exceptions, one farm is not able to support the purchase of

such a machine as a tractor, but if a number could be induced to co-operate much saving might be effected in the joint purchase. Co-operation, as has been pointed out, is by no means foreign to the Maritime farmer; who in his practical approach to his problems is willing to use whatever means are available to overcome his handicaps. Thorough-bred stock is often purchased through the agricultural society, and supplies of various kinds are secured through the many co-operative organizations. In New Brunswick the agricultural society is the focal point of many of the co-operative movements, and in communities where large and expensive machines might be used to advantage they could be purchased jointly through the society. In Nova Scotia and Prince Edward Island the agricultural societies have become little more than community organizations for the purpose of joint purchase of thorough-bred bulls. Other agricultural organizations exist, however, which should carry out the work, and the ingenuity which these people show in utilizing existing institutions for different purposes from which they were originally intended leads one to believe that there will be no difficulty in finding some organized Body that could handle this new enterprise. Before the organization of the Potato Growers' Association in Prince Edward Island, potatoes were shipped on the co-operative basis through the Egg Circles; and in Merigomish, Pictou County, Nova Scotia, the Pictou County Dairy Company looks after the co-operative shipment of potatoes.

BACKWARD AREAS

Many of the districts where agriculture is found in a backward state are located along the shores where fishing is or has been the primary occupation of the people. The quality of the soil is often very poor, and, especially in eastern Nova Scotia, it is difficult to find. Glacial action has in many places laid bare the bed-rock, and in their retreat the ice sheets have strewn boulders in their wake, making inaccessible much land which would be otherwise available. Scotch settlers sought out the highlands, where conditions were often no more favorable than in many places along the sea-coast. Soil is not the only factor, however, as there are districts which have remained backward for many years to be proven productive either by new-comers or later generations. Such districts were usually settled by people who did not come from farming stock, who naturally followed predatory methods of farming, with a consequent early exhaustion of the soil.

A thorough survey of all these districts ought to be made with the idea of ascertaining what are the possibilities for agriculture and other industries. Where agriculture is impracticable, and no other alternatives are to be found, the people might be encouraged to move to other districts where there is better and abundant land. This would not entail great expense as the number of families in such areas is not large, owing to migration which has been taking place for many years. The fact that the population has been de-

pleted makes more urgent than ever the need for immediate action; as with a sparse population it is difficult to keep up community organizations which are so essential to the cultural development of the people.

Where soil is not the primary factor, ways and means will have to be devised of conveying to these people the requisite knowledge for the proper exploitation of what advantages they possess. As an example of what may be done in such a district the experience of St. Isidore, New Brunswick, might be cited. Several generations ago a number of families, who had formerly made a living by fishing, settled here. Forests were hewn down and the wood burned; and from a soil made rich by such fertilizer, large crops of oats and other grains were produced. Soil exhaustion followed, and many, despairing of making a living in the community, sought their fortunes elsewhere. Six or seven years ago, agricultural representatives interested the parish priest, Father Lang, in more scientific farming, and with his aid an educational campaign was undertaken. To-day this community is well on its way to comparative prosperity. An Agricultural Society has been organized, an Egg Circle and a Shipping Club are now functioning, and the whole community is gradually adopting the best methods of production. There are other communities of which a similar story could be told, but this one illustrates most admirably the three main aspects of the general problem. In the first place, the people were not primarily agriculturists, which made it more difficult for them to keep well up with the technique of their industry. Here was a community of fishermen who were becoming farmers, but elsewhere the same problem exists with those who are fundamentally lumbermen. The difficulty in changing the economic activities of a people are to-day being fully recognized; and the results of a study of the general problem are to be found in "*Social Change*" by Wm. Fielding Ogburn, Professor of Sociology at Columbia University. The second feature which is of general interest is the results which the educational campaign on the part of the Department of Agriculture had when intensively pursued. Last, but by no means least, is the community leadership supplied by Father Lang. When the aggressive members of a community are being continually drained off, those who are capable of leadership are difficult to find and very often they must be brought in from outside. The Church, both Roman Catholic and Protestant, supplies this want in many instances, and the extension work of St. Francis Xavier University is making its contribution directly and indirectly.

SOIL ANALYSIS

In an area where chemical fertilizers are generally required, the fullest information possible concerning plant food content in the soil is essential. The chemical analysis of soil does not tell the whole story about its productivity, but it serves as a very efficient guide in the proper use of fertilizers and obviates much of the experimental work which otherwise has to be undertaken.

Perhaps no section in Canada needs a general soil analysis more than the Maritime Provinces, and where backward areas are concerned it is quite essential that the aid of the chemist be solicited in any general survey which has as its object the collecting of information concerning ways and means of removing from these Provinces the so-called "Backward Districts".

AGRICULTURAL CREDITS

Maritime farmers are a frugal and conservative people. Many, through careful management and hard work, have accumulated a respectable reserve, while others have inherited modest fortunes made during the palmy days of shipbuilding and lumbering. Manufacturing not being in a flourishing condition in these Provinces, and investment securities not being so popular as to-day, these funds were made available for farm mortgages to individuals well known to the lender and upon security the value of which he well understood. Funds of such a nature are still used for this purpose, but to a lessened extent.

The rapid rise in the value of land in the apple growing district of Nova Scotia, and the relative prosperity of sections in New Brunswick, finally attracted the Trust Companies. The invasion of the loan market by Mortgage Corporations was assisted by the rise in the popularity of bonds; which meant greatly lessened responsibility on the part of the investor, with a relatively small loss in interest rates. The war increased this tendency to place savings in gilt edge securities, owing to the floating of Government loans; but it also brought with it other consequences: a certain restlessness on the part of the people, and a breaking down of the sentimental attachment which formerly existed for the old homestead. When times grew difficult, therefore, some walked off their farms, and buyers were not at hand. In New Brunswick, it seems to be commonly held that no mortgage company is advancing money upon farms. Nova Scotia is not much better off; for, while there is a considerable amount of money advanced upon farm lands in the Valley, the conditions prevailing there this past few years do not lead one to believe that many loans are now being placed, and other districts are in about the same position as New Brunswick. Prince Edward Island is more fortunate. Most of the mortgages held there are in the hands of private investors, although one company does appear to be advancing money upon farm loans. No serious want of credit exists as loans are small and usually for only a few years, and those farmers who are fairly comfortably situated have not given up the practice of advancing loans to members of their own communities to anything like the same extent as is true of Nova Scotia and New Brunswick. Excepting the Island, therefore, and the favored districts of Nova Scotia, the Maritime farmer is in an unfortunate position when it comes to long term borrowing. Of course, there is the Canadian Farm Loan Board.

The Canadian Farm Loan Board commenced operations in the Maritimes

late in 1929 and it is not possible as yet to get any appreciable estimate of its work; but the forms that are being used suggest the difficulties experienced in securing buyers as they are designed to ascertain whether or not the farm is able to produce enough to repay the loan, with interest, and place little emphasis upon the price at which the farm could be disposed.

The usual complaints are heard about the conservatism of the Banks in advancing money; but, when all factors are taken into consideration, one gains the impression, that, so far as short term loans are concerned, the Banks are no more conservative here than in any other section of the Dominion.

It would be easy enough to recommend a Farmers' Co-operative Bank, but although co-operative institutions are by no means foreign to Maritime agriculturists, it is doubtful if the persistent individualism of these people would permit them to fall in with the suggestion; and undoubtedly the Agricultural Enquiry Committee is right when it advises against the Government undertaking the responsibility of providing farm credits.¹⁶³ The Canadian Farm Loan Board makes available its funds at 6%, a rather modest rate, and this is as far as Governments should be asked to go. The best plan seems to be to pursue a policy which will place the farms upon the soundest economic footing so far as production is concerned, and the proper share of credit will find its own way into this field of industry.

CHAPTER VIII.

The Apple Industry

When the Apple Industry of Nova Scotia is mentioned, it immediately calls to mind the Annapolis Valley; for it is from this narrow strip of country that an overwhelming proportion of the apples exported from this Province originate, and seventy-five per cent of the apples grown in Nova Scotia are said to be produced within a radius of twenty-five miles from Kentville.

The Valley, some eight miles wide by one hundred long, is provided with an equable climate by its proximity to oceanic influences, and the protection from high winds by North and South Mountains. The undulating nature of the floor of the valley, and the mountain slopes which bound it, afford numerous sites with ample air drainage to prevent damage from frost during the critical periods in the growing season. These advantageous sites are usually found to possess a soil which, while gravelly enough to permit of proper drainage, possesses enough fine material to retain sufficient moisture for the production of a hearty tree and healthy fruit. The general favorableness of the climate is borne out in the practical absence of winter killing; the low frost hazard, which is placed at one-in-ten to one-in-twenty; and the general absence of cold, damp, cloudy weather during blossoming period; all of these factors tend to bring about relative uniformity in yield, which, according to Professor Colby, falls about mid-way between the remarkably constant production of Washington and the widely fluctuating yields of New York State.¹⁶⁷

One of the climatic handicaps experienced by the Valley in the past is the absence of sufficient sunlight to permit the development of a highly colored fruit, but this promises to be mitigated in the future by the production of special varieties which will attain a high state of perfection in respect both to color and flavor, even in Annapolis Valley weather. High winds occasionally take their toll of apples, and picking is sometimes interfered with by rainy weather.

Owing to the compact nature of the district, unfavorable conditions affect all portions of the area, and, taking this into consideration, the general uniformity of volume of production attests the suitability of the district.

Of the total area of the floor of the Valley and the mountain slopes, perhaps less than from 15% to 20% is occupied by orchards, and most orch-

ards form but a part of a general farm. The practice of mixed farming, which has persisted so long in the Valley, and which has been the subject of much discussion, persists, no doubt, chiefly on account of the low-lying, heavy soils which are to be found on most farms, and on which apple trees do not thrive, and also to the presence of dyked lands.

But there are other natural advantages which the Annapolis Valley possesses besides those of climate, soil, and topography. The compactness of the area permits of easy access to the numerous warehouses located in the many towns which dot the railway line throughout the entire length of the Valley. The Fundy ports make it possible to bring in fertilizers: Basic Slag from England and Belgium, Acid Phosphate from the United States, Nitrate of Soda from Chili; and to land them, figuratively speaking, right in the orchard. Further, with Kentville, but seventy-two miles, and Digby—at the extreme end of the Valley—only one hundred and fifty miles from Halifax, the cost of getting the fruit to seaboard is relatively low, and the time involved is so slight that there is little need for refrigeration.

This proximity to Halifax has had far-reaching influences in the development of the Valley, for not only are the railway transportation charges less than for any other apple producing region on the Continent exporting to the same market, but this was one of the first regions in the Province to be tapped by the Railway. The line from Windsor to Windsor Junction, linking up with the main line from Richmond to Truro, was completed in 1858. Between Windsor and Annapolis, railway communications were completed in 1869, and the line was extended to Digby in 1891. It can be seen from this that by the 'seventies there was direct connection with Halifax from the greater portion of the Fruit Belt.¹⁶⁸ Therefore, as steamship transportation developed, the Annapolis Valley was in a position to take full advantage of the British market.

DEVELOPMENT OF THE INDUSTRY

Apple culture in the Annapolis Valley dates back to the early days of the French Regime. Long before there was any export market, apples were grown for domestic use and for the production of cider; and, after Acadia was taken over by the English, new varieties were introduced, many coming from England. By 1865 most of the varieties now common in the Valley had been introduced, the greater number coming in between 1814 and 1850. Throughout the greater portion of the century apples were sold to fishing vessels, and small quantities were exported to Newfoundland, but the commercial production of apples cannot be said to date farther back than 1880. In the *Report of the Apple Marketing Enquiry Committee* of 1927 figures for

the export of apples from Nova Scotia in five years averages from 1880 are given, as follows:¹⁶⁹

		<i>Barrels</i>
1880—1885	Annual Average	30,320
1885—1890	" "	83,356
1890—1895	" "	118,552
1895—1900	" "	261,879
1900—1905	" "	377,225
1905—1910	" "	496,655
1910—1915	" "	786,633
1915—1920	" "	932,957
1920—1926	" "	1,268,172

The growth of this trade synchronizes roughly with the development in steamship transportation facilities.

The bulk of the shipments have gone and still go to England, where the apples were well received owing to the similarity to the English fruit in both color and flavor. The profitableness of the trade stimulated orchard practices which tended to increase the yield and produce a better type of fruit. This increase in yield is borne out by other figures found in the *Report of the Apple Marketing Enquiry Committee*, 1927, which show the average production per acre for different periods to be as follows:

	<i>Barrels</i>	<i>Bbls. Per Acre</i>	<i>Acres</i>
1900—1905	380,000, or	16	on 24,000
1910—1915	786,000, or	24½	on 32,000
1920—1926	1,200,000, or	30	on 40,000

By 1910 the practice of Spraying had become fairly general, and the use of chemical fertilizers was developing. In some instances the region paid rather dearly for its experience; as in 1910, for example, by the introduction of the Lime-Sulphur spray from New York State, which worked well in dry years, but which damaged the foliage and caused the young fruit to drop in wet seasons.¹⁷⁰

With the advance in the industry went the development of Governmental services: the work of the Provincial Horticulturist, the Provincial Entomologist, and, finally, the endeavor to carry direct to the farmer the best and latest scientific knowledge through the extension work of the Department of Agriculture. The extension work was at first carried on through personal visits to the individual orchardist, but, as the demand grew, and attempt was made to lighten the burden, and also to intensify the dissemination of knowledge by the organization of Spray Circles through which much of the work is now done. Pamphlets containing information on orchard practices have been published and are available upon application to the Department. In the endeavor to secure the production of only those types which are most suitable

to conditions in Nova Scotia, and which are most acceptable upon the market, investigations have been carried on; and in 1927 a pamphlet was published setting out the varieties most desirable, and giving instructions upon the methods of grafting out the less desirable types. In 1928 we read from the Report of the Horticultural Division:¹⁷¹

"The top grafting of apple varieties unsuitable for Valley conditions, and undesirable on the markets is being continued. Indications are that it will be only a matter of a few years when the large majority of non-commercial varieties will disappear from the orchards and their place taken by more desirable sorts."

In an endeavor to improve the quality of the stock when placed upon the export market, investigations are being carried on to determine the causes of "Slacks" and "Shakes".

During the discussions which have taken place at the Nova Scotia Fruit Growers' Association's meetings of recent years, it is quite evident that there has been a growing conviction on the part of the trade that the grade of Nova Scotian apples must be improved, and in a discussion upon this subject at the Annual Convention in 1930, Mr. Bligh, of the British-Canadian Fruit Association spoke as follows:¹⁷²

"The British-Canadian Fruit Association are carrying out 100% inspection at the present time, and I'll tell you why. You have all seen the big range of prices, ranging from 17s. to 23s. That clearly shows that some people are putting up a good pack where others are not. We were operating thirty-three warehouses, and I could see no other way of trying to make a standard pack other than through this inspection. I do not wish to condemn a thing before it has been tried, and we are giving it a trial."

In the *Report of the Department of Natural Resources*¹⁷³ for the year 1929 we are told that never was spraying so thoroughly done or such general care given to the orchards as in that year.

This general march towards improvement culminated in the reform measures of 1930, bringing about 100% inspection and an improvement in the standard of the grades.

THE COMPARATIVE POSITION OF THE APPLE INDUSTRY

In spite of the advances that have been made, the Annapolis Valley appears to be experiencing difficult times. In the past three years there have been two Royal Commissions appointed to investigate the Apple Industry. The indebtedness of the Valley growers is stated by the later Commission to be in the neighborhood of \$10,000,000.

The British Market, which absorbs most of the Nova Scotia crop, increased its consumption of apples 87% in 1928 over 1913, but the percentage supplied by Canada fell from 39% in 1913 to 20% in 1928; which places

Nova Scotia in a very unfavorable light considering the fact that her share in the exports of this fruit is smaller in the latter period than in the former.¹⁷⁴

In a study made by Professor Longley and presented to the Nova Scotia Fruit Growers' Association at their Annual Convention in 1930, it was pointed out that in the Cumberland-Shenandoah district (comprising the States of Pennsylvania, Virginia, West Virginia and Maryland) 32.7% of the trees are over nineteen years of age;¹⁷⁵ while in Nova Scotia some 55%, according to a study made by Professor Middleton in 1928, are over twenty years of age. Since apple trees may be considered of commercial value until around seventy years of age, these figures are not so startling in themselves; but, when we realize that in the former district only 9.5% of the trees are over twenty-nine years of age, and that a very large percentage of the Valley trees (40% is estimated by one competent judge) is over forty years of age, then the figures do suggest that the Nova Scotia apple industry is gradually moving into a position where it is very likely to lose ground to its strongest rival.

The quality of Nova Scotia fruit, and the large percentage of low grades in the pack, have been constant complaints for many years. In 1914, Mr. Ells in evidence before the Dominion's Royal Commission stated:¹⁷⁶

"The Nova Scotia people have been selling the poorest class of fruit at good prices; that has been the handicap. We have been sending away stuff that is really not fit to send because we could get a good price for it."

The Royal Commission of 1930 speaks in a similar strain when it says:

"It was distinctly stated to your Commission that all apple producing countries handle their apples much more gently than Nova Scotia; that there is no country shipping apples having so many bruises, damaged spots and rot as Nova Scotia."¹⁷⁷

The conditions to which Mr. Ells alludes appear to have passed away, for the Apple Marketing Enquiry Committee in their 1927 Report pointed out that No. 2's yielded returns of 13%, Domestic 25%, and No. 3 45%, less than No. 1's. Further, they stated that during a few years previous to 1927:

Over 25% of our marketable fruit was shipped out as No. 3 grade, less than 30% No. 1, barely 20% No. 2, and 25% Domestic.¹⁷⁸

Professor Longley, in a part of the study already referred to, showed very clearly that in most years, for certain grades of fruit at least, it was highly unprofitable to ship out No. 3's, and concluded that it is most desirable that the percentage of low grade fruit should be kept to a minimum.

The validity of Professor Longley's conclusions was well borne out in

1929 concerning the return from No. 3's. Mr. Gornall, speaking upon this subject, remarks:

"You are aware that on shipments of No. 3's you did not get enough to pay the freight. I might add that it costs approximately \$2.00 to transport by rail and ocean our apples to the British market, and to sell them, so that before you get returns from the price paid by the buyer, \$2.00 must be deducted. What is left has to go to pay for packing, barrel, and everything else. What price have you been receiving lately for No. 3's? \$1.91, \$1.72, \$1.97, \$1.36, \$1.48 and \$1.60; for Wagners, \$3.33, \$1.97, \$2.40. These prices mean that for a large percentage of No. 3's packed, you did not get enough for transportation charges."¹⁷⁹

The picture thus presented is by no means a pleasant one, but it would not be complete without an excerpt from a report from Mr. J. Forsythe Smith, Canadian Fruit Trade Commissioner, London, where we read:¹⁸⁰

"The percentage of definitely low grade fruit imported from Nova Scotia is higher than that received from any barrel apple country exporting to this market When this high percentage is considered in connection with the large total quantities coming from Nova Scotia, the result is, that on all markets, at practically all times, there is a very large quantity of inferior Nova Scotia apples on offer, and this undoubtedly has a constant bearing down tendency on the values paid for all Nova Scotia fruit."

Undoubtedly there is something wrong. Although there has been progress in the past, Nova Scotia seems to have lagged behind her competitors, and now we must ask the reason why.

WHY HAS NOVA SCOTIA LAGGED IN THE EFFICIENT PRODUCTION OF APPLES?

In discussing the reasons for the present plight of the Apple Industry of Nova Scotia, and why this industry has fallen behind its competitors in the race for markets and the struggle for profits, it must be remembered that economic factors are far reaching in these days of world commerce and extensive international trade.

Perhaps it will be best to turn first to the general situation in the Apple Industry upon the North American Continent, and, when we do, what do we find? In the United States in 1925, there were only 68% as many trees bearing apples as in 1910;¹⁸¹ and, in Canada, the census figures show a decline of 11% from 1901 to 1921.¹⁸² Although, with this reduction, there has gone along a concentration of trees in commercial orchards, and increased production per tree and per acre, the per capita consumption of apples has been falling; falling from 2.3 bushels in the United States in 1899 to 1.4 bushels in 1923.¹⁸³ As would be expected, this general condition has gone hand in hand with low prices, and we find that the price of apples for the

past fifteen years has been below the general price level four years out of every five.

It would appear that apples are losing favor, and that the citrus fruits are crowding them into a smaller place in the dietary of the people of both Canada and the United States. This is evidenced by the phenomenal increase in the consumption of oranges in the United States: 500% in the first quarter of the present century, and everyone knows of their increasing importance in Canada. The citrus fruit, too, seems to have lent itself to exploitation by corporations, and the highly centralized selling agencies have, with their insidious advertising campaigns, placed oranges and grape fruit upon nearly every breakfast table in North America.

One of the distinctive features about the apple industry in Nova Scotia as contrasted with her competitors in the United States is the large percentage of apples which must find their way to an outside market.¹⁸⁴ While Nova Scotia is exporting upwards of 75% of her pack, the American producers are finding a market at home for more than 90%. The conditions upon the Continent, therefore, will have had more influence upon the American producers than upon the Nova Scotian producers, the latter being influenced largely by conditions upon the British Market, where, perhaps, sixty per cent of her apples find consumers, taking one year with another.¹⁸⁵ It is significant, therefore, to notice that upon the Continent there have come into the apple industry within relatively recent years new districts especially favored for the production of highly colored apples, which lend themselves to a special pack. As evidence of the importance of these regions, it might be pointed out that the Western group of States, with 14.3% of the apple trees in the United States, produced 24.5% of the apples of that country on an average from 1922 to 1926.¹⁸⁶ Competition from these new regions, and the impact of the citrus fruit industry, stimulated care in orcharding, packing, and handling much sooner than was the case in Nova Scotia. In England, these same forces did not work to the same degree, for, as has been pointed out, from 1913 to 1928, while the consumption of apples increased 87%, the consumption of citrus fruits increased only 41%. But apples come from all parts of the world to the British Markets, and these better packs, stimulated by the production of high quality apples from especially favored districts, and competition with citrus fruits, finally had their effect upon that market in developing a demand for better quality. The increase in the proportion of total imports into Great Britain from Australia and New Zealand, which rose from 8% in 1913 to 30% in 1928,¹⁸⁷ and the fact that out of the 8,149,230 boxes of apples exported from the United States in 1928, 3,535,973, or over 43%, went to Great Britain, suggests that the British Market is being influenced by this improved pack and better colored apples.¹⁸⁸ Indeed, the Royal Commission of 1930 calls attention to the fact that the increasing demand in

Great Britain was for better grades of apples, and especially for the boxed apples.¹⁸⁹

The situation thus far might be summarized, as follows:

- (1)—The Continental competitors of Nova Scotia came into competition in the home market with the better colored, better packed apples of the newly developed districts, and with the rapidly expanding citrus fruit trade, being thereby forced to improve their methods.
- (2)—Nova Scotia is dependent chiefly upon the British market, which did not feel the impact of the rapidly expanding trade in better quality apples nearly so soon as did the North American Continent.
- (3)—The small proportion of the production of Nova Scotia fruit sold upon the local market from these new fruit producing areas, did not permit this new force to come into operation so soon, or to such an extent as was possible in other districts.
- (4)—The British market for citrus fruits did not increase nearly so rapidly as did the North American market, which removed another force in stimulating better orchard practices and better care in packing and handling the apples.

Due to these conditions there has been a definite lag in the Nova Scotia industry in adjusting itself to changing economic conditions.

HOW NOVA SCOTIA CAN OVERCOME THE LAG IN THE EFFICIENT PRODUCTION OF APPLES

In answering the question how can Nova Scotia make up the ground lost to other apple producing areas, we must not forget that great advances have been already made. The Horticultural Division of the Department of Agriculture has greatly expanded its activities, and the extension service is now playing a considerable part in developing the technique of orcharding. Newspapers have been called upon to circulate information concerning spraying, dusting, etc. The Nova Scotia Fruit Growers' Association has played its part through its weekly news bulletin, and its annual conventions and reports. The entire fruit industry has co-operated with the Department to make more effective the orchard practices which will best ensure a crop satisfactory in both quantity and quality, and the Provincial Entomologist has spared neither time nor energy in ascertaining the best orchard practices for Nova Scotia. All these activities are having their results in enabling Nova Scotia to place upon the market a product which can compete with any grown upon the continent. Even the handicap of climate, which heretofore has resulted in the production of a fruit deficient in color, is being overcome by new varieties which have been the product of Nova Scotian enterprise.

In the field of education we also find that the authorities are putting forth strenuous efforts to acquaint the students interested in agriculture with what has taken place in the apple industry. In the Report of the Agricultural Extension Service for 1929¹⁰⁰ we read that three of the four prize winning papers written by the second year students at the Truro Agricultural College were upon the Apple Industry, viz:

- (1)—D. S. Blair—"*The Apple Industry in the Annapolis Valley.*"
- (2)—F. W. T. Lucas—"*The Control of Apple Scab in Nova Scotia.*"
- (3)—S. V. Nichols—"*Injurious Insects Affecting the Apple in the Annapolis Valley.*"

Although considerable progress has been made, and although the authorities are to be highly commended for the services they have rendered, there still seems to be room for improvement. Every means possible of bringing to the notice of the fruit growers the advantages of up-to-date orchard practices should be exploited. Newspapers, periodicals, Government reports; all publications, in short, which find the way into the apple producing districts, should be urged to co-operate in this effort to place Nova Scotia on at least an equal footing with her most efficient competitor, nor should the recently organized Department of Information of the Province of Nova Scotia be overlooked.

In regard to varieties, no effort should be spared to make sure that only those most desirable are planted and that those least desirable are grafted out. Especially is this true of districts where apple culture is comparatively new. In those districts of Cape Breton, for instance, where apples of certain varieties thrive reasonably well, but where others succumb to the rigors of the climate, local papers should be periodically informed as to the varieties most suited to that district, and agricultural representatives should have placed in their hands specific information regarding planting, varieties and grafting.

Studies in the economic aspects of the apple industry should be encouraged, and the finding of these studies should be made known to the dealers and growers, either by placing in their hands copies of these studies, or by having comprehensive summaries published in those periodicals which find their way into the homes of Nova Scotia apple growers. Here there comes to mind a survey now being carried on by Dr. Booth, Commissioner of Agricultural Economics for the Department of Agriculture, Ottawa, which study ought to shed considerable light upon many of the problems of the apple industry.

SPECIALIZATION VERSUS DIVERSIFICATION

The question of mixed farming is one which has been discussed for many years in the Annapolis Valley, and perhaps the major factor to be taken into consideration is the nature of the soils in this region. The floor of the Valley shows marked diversification in soil, there being considerable light

gravelly stretches, many belts of low-lying heavy loams, and the world famous dyked marshes. On the slopes of South Mountain, where the soil is for the most part of a gravelly nature on which apples thrive exceptionally well, the tendency is decidedly towards specialization; but on the floor of the Valley where most farms possess a variety of soils, mixed farming is the rule. The heavy soils are not suitable to apple culture, but produce good crops of Hay and grain, and the dyked marshes have been noted for their remarkable yields of hay.

This geographic feature, which has played such an important part in determining the nature of agriculture to be followed on the various farms and in the different districts, was well illustrated in a debate in 1916 mentioned by Professor Colby in his excellent study of the Apple Industry of the Annapolis-Cornwallis Valley, and it might make the matter clearer if we quote a short excerpt:¹⁹¹

"Prominent in the debate were a successful farmer operating a mixed farm near Kingston (on the Annapolis River) and a leading orchardist from the vicinity of Berwick (on the lower slope of South Mountain and near the divide between the Annapolis and Cornwallis Rivers). Each of these men stood unqualifiedly for the system of farming he ably represented. Near the close of the debate a speaker said of them:

'I have listened with great interest to this discussion and to the statements of what can be done in fruit growing and in mixed farming. I met Mr. Foster and he told me what he had produced, and I wondered how it could be done. I went over and had a look at his farm. His farm is a farm you could not convert into a whole orchard; it is a meadow farm, a lot of it, partially hay land, and he has farmed it as it should be farmed. Mr. Chute has a ridge of gravel up there that would not do for mixed farming at all. He would go under. He could not raise hay at all.'

"A more clear cut recognition of geographic relationship it would be difficult to find."

With the introduction of modern orchard practices, the apple grower is obliged to plough, cultivate and sow a clover or some leguminous crop, which operations require machinery that would be useful on a mixed farm as well. Large investments would, of course, be necessary for machinery especially adapted to apple culture, and which would play no part in the raising of stock or many other activities necessary on the general farm. The practice is developing, too, of leaving the hay that is grown in the orchards upon the ground to add humus to the soil, so the planting of a cover crop does not

necessarily involve the keeping of stock to consume the hay, which was formerly looked upon as a by-product.

Harvest time is an exceptionally important season to the orchardist, for should the operations of picking and packing be interfered with, much of the crop might be lost through rain, wind or frost. Hay is off the meadows before the apples are ready for picking, and Wheat, which is of the winter variety, is garnered in July, while Oats are harvested in August. These crops, therefore, work in admirably well with the raising of apples, but Potatoes are frequently grown on these mixed farms and do not seem to fit in to the scheme of things nearly so well. The "Irish Cobbler" is a variety which matures reasonably early and does not necessarily interfere to any extent with the apple crop; but the "Green Mountain", which seems to predominate, matures much later and often the orchardist is obliged to let his apples remain upon the trees while he is digging his potatoes to get advantage of the early market. This is especially true of recent years since Cuba has placed her seasonal tariff against potatoes, making it necessary to have the stock upon the Cuban market before November 1st. Root crops for fodder, such as turnips and mangels, do not need to be harvested until late in the Fall. It would appear, therefore, that so far as the harvest is concerned, the raising of feed for stock would not interfere greatly with apple culture.

A very important consideration to be kept in mind is that of the heavy investment in capital and large financial resources required in conducting a specialized fruit farm. The yield of apples depends to a large extent upon the vagaries of the weather, and, in the case of Nova Scotia, where her apples are marketed chiefly in England, coming into competition with all other apple exporting countries, the price is set by the yield in other producing areas and economic conditions in the various markets concerned. Often a small crop brings handsome returns through higher prices, but this is by no means the rule. It may often happen, therefore, that on account of either yield, or price, or both, the grower is obliged to finance his operations for several years with little or no returns.

In diversified operations it is usually possible to transfer funds from one branch to the other, which makes it easier to finance on relatively smaller capital.

It might be argued that even where diversification of soil exists, specialization should still be carried on; the orchard lands being operated by an apple grower, and the heavier lands by one specializing in another type of agriculture. The problem which is difficult to solve under these circumstances is that of arranging the transfer of these lands; many farms, it will be conceded, not being easily divided. Selling, therefore, might not be practicable, and renting or leasing have their disadvantages in that they tend to encourage predatory methods which no clauses in the agreement seem capable of preventing.

The practice of operating a number of orchards has put in its appearance in the Valley during recent years, or, perhaps, has merely become more common; but the present plight of the apple industry does not suggest that the practice has been noticeably successful, although no adequate study has yet been made to make it possible for one to pass judgment. The optimum size of apple orchards has not yet been determined, and one might argue in favor of anything from the small ten acre farm so common in British Columbia to mass production on a huge scale.¹⁹² In operating large units, agriculture has always faced the difficulty of labor supervision and this might prove a stumbling block to large scale operations in the apple industry. In the Annapolis Valley, where the apple crop is so overwhelmingly important, it is essential that all those raising apples be raising them as a commercial undertaking. The farm with only a few trees, which are fairly well looked after in times of good prices, and neglected when market conditions are unfavorable, acts as a menace to the entire industry by affording breeding grounds to pests and fungi which attack the apple tree. Although at the outset such an industry could scarcely develop except from small farm orchards, now, with the industry so well established, no one should be encouraged to plant apple trees unless he intends to make the production of apples a part of his regular commercial operations. Where these small orchards now exist, and through lack of care tend to menace neighboring orchards, the Government will be fully justified in following out the drastic measures recommended by the Royal Commission, viz, that the trees should be sprayed by the Government at the owner's expense, and also that infested trees of no commercial value should be cut down either by the owner or the Government at the owner's expense.¹⁹³

In this discussion on diversification an attempt has been made merely to state the problem, and not to reach any final conclusion; believing that if the farmer has an alternative, it is not necessary that definite directions be given in regard to the policy which he should follow so much as that he be made fully conscious of the requirements of his industry and be thereby prepared to meet all emergencies; and, whatever weight there is in the argument that when one's interests are diversified no one task is accomplished with the maximum of efficiency, everyone will agree that if there are any people in the Maritimes capable of managing diversified farming operations, the farmers of the Annapolis Valley are these people.

WHAT'S WRONG WITH THE MARKETING ORGANIZATION?

Before discussing the ailments of the marketing organization in connection with the apple industry, perhaps it would be better to sketch briefly the development of this organization.

In the early days of apple marketing in Nova Scotia, the growers picked, packed, and consigned their shipments to brokers in England, but as the trade

developed, and as the competition between brokers in England increased, agents were established in Nova Scotia, who had sub-agents at various points throughout the apple growing district for the purpose of soliciting business for the firms they represented. During the first decade of the present century, there were built many warehouses throughout the Valley, and by 1910 there were from one to six at nearly every town. The growth of these warehouses went hand in hand with the growth of speculators, the practice of buying the crop outright, and the habit of advancing money to the growers on which to finance the season's operations. Many of the speculators were novices at the game and lost heavily, while others made handsome profits. The confusion brought about by the numerous failures, and the envy created by the profits made, suggested to the farmers that they might eliminate the confusion and get some of the profits for themselves were they to co-operate. Out of this situation, therefore, the co-operatives were born; starting at Berwick in 1907 and spreading rapidly. During this period, with the growth of speculators and representatives from commission houses in England, the method of handling the crop changed somewhat. At the first of the decade it was estimated that 75% of the crop was consigned, while in 1909, 75% of the crop was bought outright on a "tree run" basis.

But the growth of local co-operatives brought with it other problems; each of these locals was competing with the other, and, in 1912 these various independent units formed a central organization known as the United Fruit Companies of Nova Scotia, Limited, having in all some twenty-two members the first year, and thirty-one the next.

At the outset the purpose of the central organization seemed to be to circumvent the regular channels of trade and sell direct to the wholesalers in England, consignments being made direct to their own agent, who took full charge of distribution;¹⁹⁴ but when the embargo was placed upon the shipment of apples to Great Britain during the War the representative was withdrawn, and apparently the experiment had not proved successful enough to warrant the re-establishment of the office following the removal of the embargo.¹⁹⁵

All this while, the competition eliminated many of the independents. Many of the earlier and stronger co-operatives had made their own marketing connections and would not link up with the central organization; others, while becoming members, continued to ship independently, thereby entering into direct competition with the central organization, the selling policy of which they helped to determine. Not only are the co-operatives affiliated with the United Fruit Companies of Nova Scotia, Limited, free to buy and sell on their own account, but the members of the locals are also under no obligation to do their business through their co-operative. Thus the organization stands, loosely held together by the common tie of a mutual interest.

The Royal Commission of 1930 stated in its report that from 30 to 40

per cent of the crop was handled by the various co-operatives, and that some 51 of the 65 locals were affiliated with the central organization.¹⁹⁶ In 1927 it was stated that, outside of the co-operatives most of the trade was in the hands of a few large, independent companies, in some of which British houses had large financial interests. There still remain a few small independents, and some brokerage houses continue to operate directly through their agents in Nova Scotia. All of these houses, however, advance money on the crop, sell supplies on credit, and purchase the crop from the growers; and, as one would gather from the Report of 1930, receive goods upon consignment, and sometimes take a half interest in the crop.¹⁹⁷

These goods are shipped to England consigned to various commission merchants, or sometimes sent to a distributing house, thence placed upon the various markets; but, as control from this side does not seem to have been as well managed as it might be, it has happened that some markets have been over-crowded while others have been barren of Nova Scotia apples.¹⁹⁸ Further, even in one city, some markets might have a surplus, while others are left to go begging or to find substitutes, as has been the case in the various "Private Treaty" markets in London. What is more, it has often happened that apples of varieties and quality not suited to one market, but acceptable upon another, have gone to the wrong place.

It is pointed out by Eric Leslie in his report of 1927 on the "*Marketing of Nova Scotia Apples in Great Britain*," that shippers fail to realize that the markets of Liverpool and Manchester are complementary; the two cities being but forty miles apart and the auction sales being held on alternate days and attended by practically the same buyers.

The conditions referred to above have been accentuated by the fact that apples go to the same market from American ports; that the time it takes one ship to cross the ocean varies from the time it takes another; and, last but not least, the various firms do not know which houses are to receive the produce of the others. This is the picture which the literature on the subject gives one; but, it might be added, there have been some moves in the direction of bringing about remedies.

In 1919 there was organized the Nova Scotia Shippers' Association. The details of the considerations which led to its formation are somewhat obscure, but in 1920 the United Fruit Companies of Nova Scotia, Limited, and other members of the above Association, chartered a number of vessels to transport the apple crop to the over-seas markets.¹⁹⁹ Although the vessels were chartered in the names of independent companies, it seems to be generally understood that the work of the association was responsible for this move, which involved close co-operation on the part of all shippers. The reason for this action is found in the fact that the Steamship Companies which form the combine known as the North Atlantic Shipping Conference were asking \$2.50 per barrel to carry apples across to England, which price

was later reduced to \$1.25. It is very suggestive, therefore, that the high freight rate was the driving force which led to the formation of the Association, and now it is claimed that the membership includes about 85% of the shippers of the Province. Through affiliation with the International Shippers' Association the members secure daily information concerning shipments from all American ports to the various ports in Great Britain and Europe. In this way some of the grosser overlappings have been avoided, but much still seems to be desired.

The marketing problem as it stands, leaving out of account the financial aspect, which will be dealt with later, may be summarized as follows:

- (1)—Goods do not reach the various markets of the British Isles with such regularity as to prevent alternate gluts and famines,
- (2)—The goods are not supplied to the various marts in one centre, especially London, in such a way as to supply the trade with the fruit as it is needed, since each market has a more or less regular clientele,
- (3)—Shippers do not seem to discriminate between markets which are mutually dependent; as, for example, Manchester and Liverpool.
- (4)—Varieties are often sent to one market where they are not acceptable; whereas they would be well received upon another.

FINANCING THE CROP

The whole system of financing the crop is so definitely tied up with the process of marketing that it is only upon the grounds of lucidity that a separation of the two processes is justified. The most extensive analysis of methods of financing is to be found in the Royal Commission's Report of 1930, and what follows is largely a re-statement and analysis of the question as presented there. To produce and market a crop of apples large expenditures are required. There is a heavy initial investment of capital, there is the cost of fertilizers and cultivation, and, in addition, the expense of harvesting and costs of barrels. To secure funds for current expenses the following methods are resorted to:

- (1)—The keeping of sufficient liquid capital on hand to finance the crop without borrowing, which enables the producer to pay cash and secure the most favorable terms.
- (2)—The borrowing from Banks on personal credit,
- (3)—The securing of supplies on time from the co-operatives. In securing supplies the grower usually gives a note, which is discounted at the Bank with the Company's endorsation, and, usually, the personal guarantee of the Directors,

- (4)—The securing of supplies on credit from Valley speculators, and often advances to cover harvesting costs. This credit is usually accompanied by an understanding or agreement to the effect that the producer will market his goods through the speculator,
- (5)—The securing of supplies from the local stores, on which an advance price of from 10% to 15% is paid, and Interest at 7% per annum if the account runs longer than five months,
- (6)—The advancing of funds on the part of Commission houses in England on the understanding that the crop will be sold through the house making such advance.

The figures shown in the Report suggest that by far the greater portion of the crop is financed through personal credit at the Banks, or credit from the local storekeepers.

The figures for the direct indebtedness to the three Banks that presented statements to the Commission show that in September, 1929, \$1,705,731 was outstanding; whereas there was owing to the four independent dealers the sum of \$762,593, and to the co-operatives affiliated with the United Fruit Companies \$192,498—. But the figures showing the indebtedness to the Banks do not include the discounted trade paper, of which a considerable amount was used indirectly in financing the Apple industry. The Report quotes one Bank Supervisor as stating:²⁰⁰

"It is our opinion that the amount represented by the discounted trade paper for merchants and various dealers exceeds very greatly the amount loaned direct to farmers and co-operative societies. The information on the enclosed sheet refers only to loans. It would be impossible for the Bank to form any close opinion of the amount of paper on its books that directly and indirectly represents accommodation for farmers. We might mention, however, that our local advances at Annapolis Valley Branches were upwards of \$5,000,000—at the end of February, and that this represents an increase of almost \$1,000,000—over a similar date in the preceding year. It would be quite absurd to state that the re-payment of this large amount of funds is dependent on the apple industry, but because of the importance of that industry in the Annapolis Valley, it is quite reasonable to assume that a very considerable proportion is so dependent. We would not care to hazard a guess of the amount that relates to the industry, but it is possible that 50% would not be far out of line."

The Commission estimates the total indebtedness of the Valley at \$10,000,000—, and, if we subtract from this \$1,000,000 as covering the indebtedness to speculators, co-operatives and English Commission houses, the balance of \$9,000,000 will have to be divided amongst the Banks, Loan Companies and local storekeepers; and, of this, as pointed out above, the

three Banks have advanced \$1,705,731 in direct loans, and, undoubtedly a great deal more in discounted trade paper.

It is necessary to keep in mind the fact that the trade depends only to a limited extent upon direct advances from the speculators.

COST OF MARKETING

The intricate system which has developed in connection with financing the crop makes it very difficult to get at accurate figures concerning the cost of marketing. When a Commission house in England establishes an Agent in the Valley and advances money, both the Agent and the Commission house must be compensated. The first for his personal service, and the second for its financial accommodation. The Royal Commission places this figure at from 1s. 2d. to 1s. 8d. per barrel.²⁰¹ Others who are working on their own account, but shipping to a commission house in England, expect to be recompensed for their services, the minimum charge for which is placed at about 9d.²⁰² Some firms sending goods forward on consignment appear to have formed the practice of stipulating the price at which the goods are to be sold, and the amount of money which is to be deducted as their share.²⁰³

Along with some of these fixed charges, there occasionally goes a percentage of the commission charged by the Broker, the rate usually being 2%. These charges are remitted direct to the agent or firm and are covered up under the general term "Consolidated Charges." The Broker in England, on the other hand, receiving a commission for his services, follows the practice of padding his expense account to the point where he considers the returns are adequate. A fixed charge made by the firm shipping from this side seems to have been a practice of long standing, and has been taken over even by the Co-operatives, where the money so received is used to make a better showing on the cost of handling.

Considering the competition which exists in the Valley between the co-operatives and independents, and the competition in England for business, it would be expected that these charges would have been reduced to a minimum by this time. Indeed, the fact that speculators have flourished in competition with co-operatives is a strong argument in favor of this contention.

The Royal Commission, while refusing to place an estimate on the proportion of the crop marketed on consignment, ventures an estimate on the cost of these "Concealed Profits" to the industry, at from \$75,000—to \$150,000—. A very large percentage of the crop is bought outright by the speculators, it is admitted, and in this case the "Concealed Profits" would have no significance.²⁰⁴ It seems unfortunate, therefore, that the Commission was not in a position to ascertain the proportion of goods shipped on consignment, yet ventured to estimate the cost to the Valley of the practices obtaining; and the estimate itself, showing such a wide margin of error, is of little value.

THE APPLE INDUSTRY

The charges for marketing the crop in England, interestingly analyzed in the Report of the Royal Commission, 1930, are shown in the following table:²⁰⁵

	<i>Private Treaty Markets Per Barrel</i>	<i>Auction Markets Per Barrel</i>
Wharfage.....	5-2/5d.	5-2/5d.
Port Rate.....	1d.	1d.
Cartage.....	6d.	6d.
Market Tolls and Portage.....	.....	3d.
	<hr/>	<hr/>
Concealed Profits.....	12-2/5d.	15-2/5d.
	11-3/5d.	8-3/5d.
	<hr/>	<hr/>
Consolidated Charges.....	24d. or 2s.	24d. or 2s.

The term "Concealed Profit" is self-explanatory, being the amount which the Commission house arrogates to itself in addition to the commission. The commission paid is usually 3%, and sometimes runs as high as 7%, but when a higher charge than the former figure is made it usually implies that some of the Concealed Profits are being refunded to the Agent in Nova Scotia.²⁰⁶

If we take 20s. as the selling price per barrel, and figure commission at the rate of 3% and 7% respectively, and add this to the Concealed Profits, it may help to clarify the picture a little and leave one with a better understanding of what accrues to the commission merchant in England.

3% on 20s. gives us 7-1/5d.

The total returns to the London houses would read:

	<i>Private Treaty Markets</i>	<i>Auction Markets</i>
Concealed Profits.....	11-3/5d.	8-3/5d.
3% Commission on 20s.....	7-1/5d.	7-1/5d.
	<hr/>	<hr/>
	18-4/5d. or, 1s. 6-4/5d.	15-4/5d., or 1s. 3-4/5d.

Taking the higher rate of 7%, the commission on 20s. would be 16-4/5d. and then the total profits would be:

	<i>Private Treaty Markets</i>	<i>Auction Markets</i>
Concealed Profits.....	11-3/5d.	8-3/5d.
7% Commission on 20s.....	16-4/5d.	16-4/5d.
	<hr/>	<hr/>
	28-2/5d. or, 2s. 4-2/5d.	25-2/5d. 2s. 1-2/5d.

For Copenhagen the selling charges are given as averaging "about 40c per barrel."²⁰⁷ Therefore, it is seen that in making a comparison of the returns to merchants in London and to merchants in Copenhagen, the London

rates are not so far out of line as the discussion in the Report of the Commission would lead one to believe. This is not meant to condone the practice of concealing profits in "Consolidated Charges," but merely to point out that even if the system be reformed, there is little likelihood of any direct saving in this respect. Indeed, the willingness of the brokers to sell on a straight commission suggests that their total profits have been brought down pretty well to what they consider the minimum.

The more serious problem in marketing, which arises out of the methods of financing, comes from the practice followed by commission houses in advancing money on crops, taking one-half share in crops, and buying same outright, and at the same time becoming interested in a crop on joint account with an agent or representative in Nova Scotia. This means that the commission merchant is often acting in the capacity of:²⁰⁸

- (1)—A Commission Merchant in the true sense of the term,
- (2)—A merchant with an interest in the crop, through advances having been made,
- (3)—As a part and complete owner,
- (4)—As a part owner along with his Nova Scotia representative.

When a merchant acting in these multiple capacities is confronted by a market which is over-stocked, it is only to be expected that he will protect his own interests first, and this situation is often further aggravated by the practice which has developed of paying a flat rate plus a commission. Here again, of course, the value of the analysis is diminished by the fact that we do not know the proportion of the general pack which is put on the market under these varying circumstances. When the crop is bought outright and a speculator is dealing directly with the commission house in England, no one will doubt that he will protect his own interests and secure the most favorable terms possible.

Considering the preceding discussion, we are now in a position to take a glance at the cost of marketing a barrel of apples in London, working all the while with the figures provided by the Report of the Royal Commission of 1930. In order to simplify the problem we shall choose Berwick as the shipping point:²⁰⁹

	<i>Per Barrel</i>
Freight Rate from Berwick to Halifax.....	\$.28
Handling charge.....	.01
Switching charge, \$5.00 per car (225 barrels), \$2.50 of which is paid by the shipper.....	.01-1/9
Refrigeration charge, \$3.00 per car.....	.01-1/3
Transportation—Halifax to London.....	.80
	<hr/>
	\$1.11-4/9, or say, 4s. 7d.

THE APPLE INDUSTRY

TOTAL MARKETING CHARGES IN LONDON—PER BARREL—WITH COMMISSION AT 3% AND 7% RESPECTIVELY, AND AGENT'S CHARGE AT 9d.

Private Treaty and Auction Markets

	Commission 3%	Commission 7%
	£ s. d.	£ s. d.
*Consolidated Charges.....	2.0	2.0
Commission	7-1/5	1.4-4/5
Rebate to Agent.....	9	9
Transportation	4.7	4.7
	<hr/> 7.11-1/5	<hr/> 8.8-4/5

MARKETING COSTS IN LONDON WHEN ADVANCES HAVE BEEN MADE TO PRODUCER, WITH COMMISSION AT 3% AND 7% RESPECTIVELY

	Commission 3%	Commission 7%
	£ s. d.	£ s. d.
*Consolidated Charges.....	2.0	2.0
Commission	7-1/5	1.4-4/5
Rebate to Agent, including returns for financial accommodations	1.2 to 1.8	1.2 to 1.8
Transportation	4.7	4.7
	<hr/> 8.4-1/5	<hr/> 9.1-4/5
	to	to
	8.10-1/5	9.7-4/5

(Car contains 225 barrels. Selling price of Apples taken at 20s. per barrel.

Commissions of 3% and 7% respectively calculated on 20s.)

*See page 112.

COST OF PRODUCTION

Although the foregoing figures represent fairly well the variations in the cost of marketing, they say nothing about the cost of production; and, indeed, very little can be said except in general terms. The yield per tree, or per acre, which depends so much upon weather and cultivation practices, fluctuates to such a degree that we find in the Royal Commission's Report, 1930, figures varying from \$1.50 to \$2.50 as representing the cost of producing a barrel of apples ready for shipment.²¹⁰ These figures will include the cost incurred for labor, fertilizers, spraying, barrels, interest on capital invested, etc. There is no need to criticize the methods of cost accounting used, the chief concern being to keep the costs, whatever they be, to the minimum.²¹¹ In this respect the comments made in the Royal Commission's Report upon the charges made for fertilizers and other materials are particularly interesting. When the supplies are purchased on time from the local storekeepers, the advance in price amounts to from 10% to 15%, with Interest at 7% per annum after the account runs longer than five months, or about 25% per annum; and when purchased through the local co-operatives the suggestion is that a considerable advance in price is also made, as the Report reads:

"The profit to the Company in these transactions is out of all proportion to the service rendered."

In a discussion upon the purchases made through the local stores, considering the advance in price when credit is granted, the Report reads as follows:

"Nor is the storekeeper especially to blame, because in advancing such credit he is taking the risk of a certain percentage of loss from some of his clients, and, therefore, considers he has to add on sufficient to cover possible failure to pay."

The local co-operatives are, no doubt, obliged to take the same considerations into account, which explains to a large extent the increased cost to the grower for the accommodations received; nevertheless, if the advance of 25% is at all representative, it would appear that many Valley growers are paying very dearly for credit accommodation.

The problems which arise out of this discussion run all the way from the providing of ample financial facilities at the lowest possible cost to the purchase and distribution of materials needed on the most economical basis, but they may be summarized generally as but two:

- (1)—The providing of adequate credit facilities,
- (2)—Lowering the cost of production and marketing to the minimum.

Before making any specific recommendations, certain proposals made by the Royal Commission in 1930 need to be considered.

Recommendation No. 10, which the Commission considered to be its most important, and which deals with methods of financing and organization for marketing purposes, contains suggestions of far reaching importance.²¹² In the first place, it involves Provincial Government guarantees amounting to \$4,750,000. \$2,000,000 of this is to be raised by a Bond issue and to be used for the purpose of granting mortgages to growers in the Valley. Another \$2,000,000 is to be provided by Bank loans covered by a Government guarantee, and to be used in financing the crop; this guarantee lasting but five years. The \$750,000 which still remains is to be used by the new Co-operative Company for the purchase of capital equipment and is to be raised through an issue of bonds guaranteed by the Government.

There are serious objections to be raised against the providing of credit facilities on the part of the Government for any industry. These advances are rarely repaid; they amount, in short, to a direct subsidy. The Provincial Government has had its difficulties for years in finding sufficient money wherewith to finance the general operations of government, and it is decidedly undesirable that a further responsibility be placed upon it to meet maturing bonds in the future, unless the expenditures have been such as to bring about increased revenues to the Province. Politicians have a bad habit of endeavoring to secure votes by promising more lenient terms on any financial

obligations which the electorate may have to the Government. Sometimes, however, these serious objections may be overruled by the exigencies of the moment, and, if there is no other way out, these extreme measures may be resorted to. Is there another way out?

The money which is to be loaned as mortgages, according to the Commission's Report, is to be advanced only to those:

"Who can show by reason of past experience, property value and moral character, reasonable grounds for further financing,"

excellent grounds for the advancing of money by any Mortgage Corporation. No doubt, owing to the present situation in the Apple industry, Mortgage Companies will be very wary about advancing money except on the very best of security, but in 1929 the Canadian Farm Loan Board commenced operations in Nova Scotia, and this should be one source for the necessary long term loans to apple growers. The general objection advanced above to the providing of finances for an industry by the Government, applies to the Canadian Farm Loan Board as well as to bond issues backed by the Provincial Governments, but there are some differences which are worthy of consideration:

The Farm Loan Board is already in existence and conducting a general loan business, and, being organized by the Dominion Government, the more remote control leaves it less subject to political influences than a similar undertaking by a Provincial Government.

Finally, even if these loans do tend to become a permanent subsidy, the Dominion Government, with its wider powers of taxation, is in a better position to carry the burden than any Province—especially Nova Scotia.

The loan by the Banks, carrying the Government's guarantee, stands in the same danger of becoming a permanent liability as the general mortgages. According to the figures given in the Report, the Banks have been fairly liberal in advancing money; and, if the industry is fundamentally sound, those who have proven their ability to raise apples successfully do not seem to stand in danger of being deprived of adequate credit facilities.

The general tenor of the Report, and specific wording in several instances, suggests a more subtle reason for these proposed financial changes than the mere providing of adequate funds on which to carry on operations. This basic reason seems to be that the speculators in the Valley secure a hold upon the growers through advancing credit, and use this as a means of forcing the growers to sell through them and at their price. Under the section dealing with different methods of financing the crop, on page 22 of the Royal Commission's Report, is to be read the following:²¹³

"A very considerable number of the producers purchase their supplies through Dealers in the Valley, the method being to secure from the Dealer, or "Speculator" as he is known in the Valley, their supplies in the Spring, and, when necessary, secure advances for

labor charges. In turn they agree to sell their crops to the Speculator at the general market price being paid in the district at a certain date in the future. This, to a very large extent places the farmer in the hands of the Speculator with regard to the price he is to receive for his product. In some instances the farmer is given his choice of selling at a fixed price or consigning to a Commission firm in London through the person who has the lien upon his property. In either case the transaction is likely to be favorable to the Dealer. If he buys, he is probably in a position to dictate the price, and, if shipment is made on consignment, his profit is sure under the system of rebates."

On page 33 of the Report, in discussing the various methods of marketing, the following words appear:

"Without question, a very considerable number of men find themselves under pressure to sell their Apples at the time and at the price which suits the convenience of the Dealer."

Of the total direct indebtedness of the growers in the Valley to the three banks, the four dealers, and the co-operatives affiliated with the United Fruit Companies, as mentioned in the Report of the Royal Commission, 1930, amounting to \$2,660,822, some \$762,593—, or \$28.66% represents the speculators' portion. Outside of this, of course, as mentioned before, is the indirect indebtedness, much of which is financed by the banks. Undoubtedly this system does give to the speculators an opportunity to bring considerable pressure to bear to force the debtors to market their goods in the manner and at the time they desire. This complaint of misuse of power on the part of dealers is heard not only in connection with the Apple industry of the Valley, but also in connection with the Potato industry of New Brunswick, and the Fishing industry of all the Maritimes. That a creditor expects his customer to give him the business after he has received accommodations, is readily appreciated; but, with the strong competition which the co-operatives ought to be able to put up it is difficult to understand how this could be used to the degree of forcing a hardship upon the growers. If, in the past, the competition from the co-operatives has not been so keen as it might be, owing to their inability to give adequate credit, it is advisable that this defect in their organization be remedied and that equitable treatment to the growers be forced upon the speculators through competition rather than any direct aid from the Government.

Following the publication of the Report of the Royal Commission there existed in the Valley a general misunderstanding concerning the scope of the new company to be organized. Many believed that the intention was to force out of business all the private dealers and bring the Apple industry under the control of one highly organized co-operative company. The Report calls for a membership in the new company representing not less than

50% of the apples grown before financial aid from the Government be granted; but, in spite of this, the Report does leave the impression that the ultimate goal is 100% co-operation. The following quotation appears on page 63:

"It has been pointed out that in other parts of the world where the same problems have presented themselves as those to the growers in the Valley, the universal practice has been to resort to *complete co-operative *methods* and highly centralized control. This control applies not only to the methods of preparing the fruit for the markets, but also as to the right of shipment, and even to the prices which apples can be offered for sale on the local market by growers and dealers."

In Recommendation No. 10, page 67 of the Report, appears the following:

"That there be a complete re-organization of the methods of financing and marketing the apples produced in the Valley, the purpose being to bring as far as possible under one *"*control all the various agencies*, especially the co-operative agencies now undertaking the marketing of such fruit."

*The italics are the writer's.

The general sentiment which pervades these two quotations seems to run counter to what is written on page 64 of the Report; viz,

"Without question, in making the adjustments recommended in the following recommendations, present organized interests may appear for the moment to suffer. Your Commission is convinced that this can only be of a temporary character, that whatever is for the interests of the growers as a whole will ultimately be in the interests of merchants, dealers, and other organized interests in the Valley."

Although the sentiment of the Report differs from the specific recommendations in places, nevertheless it is these specific recommendations with which we are chiefly concerned.

If the Government does not give the financial backing suggested in the Report, the Committee of two, the duty of which it is proposed would be to supervise all advances excepting those connected with financing the crop, would be unnecessary. But this proposed Committee, together with another member appointed by the Nova Scotia Fruit Growers' Association, is to make up a Committee of Direction for the purpose of regulating and controlling shipments of apples to all markets. It is stated that "as a regulating authority, this Committee shall act as an independent body." Owing to the fact that the Committee consists of three members, one appointed by the Government, another by the new Co-operative Company to be organized, and the third by the Nova Scotia Fruit Growers' Association, it would appear that

the private interests in the Valley are outside of its jurisdiction; and this belief is further strengthened by the fact that it is the Company which is to send a representative to England to look after proper distribution there, and to advise upon market conditions, etc. If the range of authority of the Committee of Direction is to be restricted to the Co-operative Company only, it fails to fulfil the purpose for which it was proposed; viz, orderly marketing or regularity of shipments. The other 50% of the crop moving to the same markets would interfere greatly with the plans of the Marketing Committee or representative in England, and might make nugatory most of the efforts of the new organization. Had the Committee been distinct from the Finance Committee, and had it not been directly tied up with one side of the trade and not with the other, it might have been possible for it to assume the complete control of all shipments and to have set a minimum price for all sales upon the domestic market, as did the British Columbia Committee to which this Committee of Direction seems to bear a strong resemblance. However, since the release of the Report of W. Sanford Evans on the *Marketing of the British Columbia Fruit Crop*, and since the Courts have declared *ultra vires* the British Columbia Act: "*Respecting the Marketing of Fruit and other Produce*" (Chapter 54, assented to June 2, 1930), there does not seem any possibility of such control being established in Nova Scotia.

But, while there are serious objections to be made to the Recommendations of the Royal Commission on the grounds that the machinery proposed to be set up fails to promise a satisfactory solution of the difficulties now experienced, the failure of the Commission to offer any alternatives, or to realize the value of existing institutions in connection with the apple industry, is far more serious.

RECOMMENDATIONS

1. *Improvements in Marketing*

In considering the problem of marketing, it will be well to point out at the beginning that considerable progress has been already made towards getting supplies to the various markets in an orderly fashion. Through the affiliation of the Nova Scotia Shippers' Association with the International Shippers' Association, the members are daily advised as to shipments from the various American ports to the various European ports, with the object of eliminating overlapping in shipments. What is more, the local shippers seem to be reasonably well informed as to the destination of shipments going forward from other houses. The overlapping that occurs may probably be due chiefly to small independents shipping without the market information which is already available. Unquestionably a great deal still remains to be desired. Complete knowledge of market conditions, and shipments from European ports, does not seem to be available, and a representative in England could do much to supply this information. The Ontario representative in England is there officially from the Ontario Fruit Growers' Association, which is as-

sisted by a grant from the Ontario Government, and, as it is usually more satisfactory to use existing institutions in developing an organization than to create entirely new ones, a similar arrangement might be made in Nova Scotia through either the Nova Scotia Fruit Growers' Association, or the Nova Scotia Shippers' Association; but, considering the functions of the latter organization, it seems to be the more preferable.

The recommendation is submitted therefore:

(I)—That a representative be established in England who will work through and be paid by the Nova Scotia Shippers' Association. If it be found necessary, this organization could be subsidized by the Government. The representative's duties would be:

(a)—To advise the Nova Scotia Shippers' Association daily as to the stocks on hand, shipments en route from European ports, and general market conditions,

(b)—To submit to the Association information concerning varieties and types of apples desired by the different markets. This information would be disseminated among the various shippers of the Province, members of the Association, to enable them to better calculate their market, and to exercise greater scientific control over their exports than is now possible.

This general representative, however, will not be able to look after the local distribution of shipments for the various firms, and for this purpose each of the companies or individuals shipping fruit to the British market will have to have its own Agent. In this respect the first move might be made by the United Fruit Companies of Nova Scotia, Limited, whether or not a general representative is sent representing the entire industry, and it is recommended:

(II)—That the United Fruit Companies of Nova Scotia, Limited, establish an Agent in Great Britain for the following purposes:

(a)—To receive consignments of fruit and distribute them to the various markets as they are required.

*This Recommendation is the same as that made by the Imperial Economic Committee in its Report of 1927, which reads as follows:²¹⁴

"If the producers desire the best use to be made of the marketing facilities in the United Kingdom, they must, themselves, through their organizations, undertake the delicate and responsible function of controlling and supervising distribution as between the different consuming areas in the United Kingdom, and for that purpose must maintain in the United Kingdom capable and efficient representatives."

(III)—In the absence of a general agent representing the entire industry, to supply to the United Fruit Companies of Nova Scotia, Limited, information which otherwise would be secured through the general representative.

(b)—To bargain with the Railway Companies, Brokers, etc., for the most favorable terms. In securing an agreement with the Brokers in England, the object would be not only to get the most favorable terms possible, but to eliminate the undesirable feature of "Concealed Profits" being included under Consolidated Charges. Although it is the writer's opinion that competition undoubtedly keeps the remuneration to the Broker at about what they would consider a minimum, yet the shipper is entitled to know what he is paying for this service, and the industry should not run the hazard of having its products sacrificed owing to the payment of a fixed sum plus commissions. If this move is made by the co-operatives, it will be a means of ingratiating them with the trade, and in forcing competitors to follow.

RECOMMENDATIONS

2. *Improvements in Financing*

(I)—Owing to the heavy burden which some growers are carrying in the form of current liabilities, it would be well for all those whose financial situation is fundamentally sound, and who desire to consolidate these obligations in a long term mortgage, to seek such mortgages through the Canadian Farm Loan Board,

(II)—It is stated in the Report of the Royal Commission that advances made to growers by speculators in the Valley are often covered by written contracts whereby a grower agrees to sell his product through that particular agent. Considering that this practice is fairly general, it is recommended that the Co-operatives institute a system whereby growers contract to sell their products through the co-operatives when they receive the advantage of credit facilities. This would enable the co-operatives to get greater financial assistance when it is known that the proceeds from the crop must pass through their hands.

RECOMMENDATIONS

3. *Closer Co-operation*

If the people of the Valley are desirous of a stronger centralized co-operative organization, the details concerning the form of the new Company are not so important as the necessity of making a start. The first move, therefore, should be:

(I)—The appointment of an Advertising Manager by the United Fruit Companies of Nova Scotia, Limited, whose duty it will

be to see that the activities of the Company are well known to its members. If the Company has already appointed an Agent in Great Britain, this would be a very substantial talking point in favor of closer co-operation.

(II)—The next step should be to institute the system of contracts whereby the individuals agree to market their fruit through the co-operatives when they receive financial assistance.

(III)—The third step should be to secure similar contracts between the central organization and the local co-operatives. At the present time, local co-operative companies, members of the United Fruit Companies of Nova Scotia, Limited, exercise voting rights at the general meeting and take a part in the shaping of the marketing policy of the Company, when they, themselves, do not use the facilities it affords, but sell in direct competition. All members not using the facilities of the central organization should be denied the right to vote.

(IV)—These steps might easily lead to definite contracts for the sale of fruit on the part of both individuals and companies through the central organization, irrespective of whatever other facilities they have taken advantage. Provided, however, that this is acceptable to the people of the Valley. It might be pointed out here that compulsory selling through the central organization is foreign to the co-operative institutions of the Maritimes.

(V)—The manufacturing of By-products, which is now a part of the policy of the United Fruit Companies of Nova Scotia, Limited, could be extended as time and finances permitted.

In this way, by slow stages, the co-operative movement in Nova Scotia might be consolidated into a highly centralized and efficiently organized unit.

CONCLUSION

The Annapolis Valley has always been fortunate in having a number of young and vigorous men actively engaged in the apple industry. Perhaps no district in the Maritime Provinces is better equipped to grapple with an economic problem than is this district of Nova Scotia. As previously pointed out, Nova Scotia was placed at a decided disadvantage in keeping abreast of the times in the rapid developments which have taken place in the apple industry in recent years; due to her geographical position and to the fact that most of her apples were marketed in England. Once realizing the gravity of the situation, however, and supported by close co-operation on the part of the Government, and of the people in the rest of the Province, no one will doubt that the Valley producers will eventually take fullest advantage of all the facilities at their disposal to place their primary industry upon a sound economic footing.

CHAPTER IX.

Manufactories

MANUFACTORIES IN THE MARITIME PROVINCES

In no other place in Canada have the manufactories been hammered down to rock bottom as in the Maritimes. A small, local population, and distance from the other markets of Canada, have made difficult large scale operations, while outside competition has had easy access to these markets over the trade routes of the Atlantic. The policy of protection to industries, which seems to have been generally adopted by both political parties, and which has become a part of the political traditions of the country, has tended to foster industries near the centres of population; and the economies made possible by the more extensive operations for a considerable market near at hand have left the producers in Central Canada at a definite advantage. In spite of these handicaps, there have grown up certain industries, the quality of whose products have won them a market throughout the whole of Canada, and, in not a few instances, have commanded international respect.

Although there are outstanding firms, sending their products to all parts of Canada, and exporting as well, there are large numbers who cater to the local market, and a few that have been built almost entirely upon export trade. The local firms, in many instances, produce a commodity which, in the words of Professor Fay, is on the border line between "art and utility", but all are carrying on operations which are not aided materially by a large output.²¹⁵ The industries which are primarily dependent upon an export market are chiefly those which are based upon the natural resources; but a few are bound up with other industries, and some are, or have been based upon the geographical position of the area, and open markets for certain commodities. Such, for instance, is the refining of sugar, which, through proximity to the West Indies and to Great Britain, and the cheap ocean rates, can be manufactured from the semi-raw product into the refined and exported, chiefly to England. Unfortunately for this industry, Great Britain has raised a tariff against refined sugar, which, while affording a preference to the rest of the Empire, still makes that market practically inaccessible.

By the rather painful process of elimination, those industries which could overcome the many handicaps of this area survived, and stand to-day as a monument to the ingenuity, the temerity, and the pertinacity of these people. To surmount the heavy cost of a long rail haul, there are produced goods which are relatively light according to their value; and, to overcome the han-

dicap of time, goods that can be stored, that have a seasonal demand, or which are specialty lines but always in stock. Again, depending upon skilled workmen, and other local advantages, some progress has been made in specialized lines which are always ordered in advance; such, for instance, as the acid-resisting boilers produced by T. McAvity & Sons, Limited.

These commodities always bear the mark of quality, and it is becoming customary to associate with all Maritime industries this attribute. Indeed, it is only by the most careful attention to the finishing of a high grade product that any producer can hope to send them long distances, and meet competition, when his chief market lies at the other end of the line of rail. The same is true when it comes to invading markets which are sheltered by a tariff wall, and tariffs and rail haul have been the severest handicaps which have had to be overcome.

A few industries, it is true, produce relatively heavy commodities, such as stoves; but, owing to the possibility of ocean transportation, commodity rates are obtained, with the result that many of these are found upon the Pacific Coast, in Alberta, and perhaps as far east as Winnipeg, but not in Central Canada.

But distance from the market involves more than a high cost in the transportation of goods; it makes expensive the operations of selling, as the difficulties of supervision increase more than in proportion with distance, and conferences are costly when representatives have to be brought from one side of the Continent to the other in order to discuss the problems of business. If readjustments have to be made, and the manager is obliged to take a hand to straighten out any entanglement, again the distance from the greater portion of the market becomes a factor, not only of expense but of psychology upon the customers. To overcome these handicaps many methods have been devised. Perhaps of first importance has been the selecting of the most competent employees so that the minimum of difficulties will arise. When the type of product will permit, and when the volume is sufficient, warehouses at important centres are maintained from which the goods may be distributed. One firm, at least, not having sufficient volume to warrant the maintenance of a distributing house at large centres, has gone into the wholesale business in complementary lines, with the result that the products which it manufactures receive the most careful attention, and, at the same time, bring in the maximum of profit. Amalgamations, too, have helped somewhat, despite the fact that they have so often meant the closing down of Maritime factories. The Marvin Biscuit Company of Moncton, for example, finds an outlet for its specialty lines through the national organization; while, at the same time, it retains the Maritime market for its general products. The Iron and Steel industry has followed the traditional policy of the same industry elsewhere by developing a horizontal combination which assures a market for at least a portion of its output. Such devices to reach and satisfy a distant market

have been accompanied by others to help remove the psychological barrier of distance; for example, the liberal use of the telephone between Maritime points and Montreal.

Not a few of these companies which have reached out and gripped the markets of the rest of Canada find an outlet for an appreciable quantity of goods in outside markets. Newfoundland is of more direct concern to Maritime manufacturers than one is, at first sight, prepared to concede; for, although the market is relatively small, and rather near to Great Britain, this sister Dominion has similar needs to the Maritimes, engaged in an industry common to both; and, as a result, practically all those firms who do export, send some goods to this market. In a number of instances, branch offices are established, and the careful attention paid to customers' needs has won for the Acadia Gas Engine Company a preference among the Newfoundland fishermen, with the result that it has secured about 80% of the total market. What is true of Newfoundland is also true of the West Indies. Practically all goods manufactured that are used in southern climes follow the shipments of fish and potatoes to the Caribbean. Exports do not seem to be large, but the variety is considerable. Unfortunately, it has been only recently that adequate transportation facilities have been provided, but much progress has been made and more may be expected. The West Indies, of course, are not so important as the size of the population might suggest, for most of the residents receive a very low income, and, therefore, possess correspondingly low buying power.

A number of the so-called "local" industries, while primarily established to supply a nearby market, find an outlet for some of their products beyond the bounds of the Maritimes; but, such manufactories work under terrific handicaps owing to size and limited home demand. A small firm is not in a position to keep up a highly efficient sales force when producing a limited range of commodities which must be sold upon a scattered market. But, when the market of the locality in which the industry is situated is sufficient to take the output from a small plant, the difficulty in keeping in touch with the latest improvements in manufacture, and the best industrial technique, is great; and this, coupled with marketing difficulties, has a tendency to keep the small concerns still very small. When a market is continuous, as in Central Canada, for example, it is possible to progress from centre to centre, consolidating the expansion as each step is made; but, in the Maritimes, where similar industries exist in various parts, and even in the home market find the contact of communities rather weak at times, it is necessary to span, at one leap, the vast expanse of territory separating the production centre from the most populous Canadian market. These small industries, with their production and marketing problems, present a dilemma from which it is difficult to escape: if specialization is followed, marketing overhead is unbearable; if diversification, the overhead of plant and equipment. The escape has been

often by diversification, not of production but of activity; a woodworking factory will go into the hardware business as well, by stocking a full supply of all materials required for building purposes; and a small flour and feed mill will be run in conjunction with a general store. Small saw mills are quite often operated in conjunction with a small farm. This diversification of activity is very often carried much farther, and into much larger industries, as with the St. John Dry Docks, where most of the ship repairing is done in the winter, and in the summer the staff is kept together by dredging operations and structural steel work. This tends to mitigate the seasonal nature of the several industries concerned, and to bring an element of stability to the country that would be otherwise lacking. Such types of diversification are very much akin to the inter-relation of industries noted elsewhere in discussing farming, fishing, and lumbering; and, while not peculiar to, are certainly characteristic of, the Maritimes.

In endeavoring to meet the difficulties of marketing for the smaller firm, as well as to do good missionary work in general, The Maritimes' Trade Commission has been established at Toronto, has done excellent service, but appears to be experiencing certain difficulties in making contacts with the many smaller industries and businesses which might be able to find a market for some products in Ontario. The problems of marketing and of industrial technique for small manufacturing units are most difficult to solve, chiefly because each individual case demands special attention. Some suggestions are being made later on, however, which it is hoped will lead to the establishment of machinery adequate to cope with the situation.

Although the handicaps of the Maritime manufacturers are great, there are some compensating advantages. An exceptionally high type of labor is available, skilled and unskilled, which results in good workmanship and a low labor turnover. Wages, too, are generally slightly lower; a reflection, in part, of lower living costs, and, in part, of adverse economic conditions. Many industries are located in relatively small towns, with consequent lower taxes; and, when materials have to be brought in, they can be landed at a minimum of cost.

INDUSTRIAL CREDIT

The complaints which one so regularly hears while in the Maritimes about those with money keeping it safely stowed away in the bank or in gilt edge securities are so dinned into one's ears, that it is difficult to dismiss them lightly. As stated elsewhere, the people of these Provinces are frugal and conservative lot, and the habit of putting a little by for a rainy day is fairly general. Such habits were fixed in the old days and have not been changed by any burst of exceptional prosperity upon this section of the Dominion. On the contrary, there has been a rather sorrowful tale of failures and removals, brightened here and there, it is true, by some brilliant successes. The widow's mite in Amherst, for example, is not now likely to find its way into

any Maritime enterprise, and people with small savings are naturally careful about where they are invested.

No statistics can be given that have any value upon the question of the conservatism of these people, but so much smoke rarely exists without some fire, and an intimate contact with the Maritimes, which dates back to early childhood days spent in Saint John, New Brunswick, has convinced the writer that there exists a fair-sized blaze. This is not meant to insinuate that the business men of these Provinces are without that quality which will prompt one to venture upon a promising speculation; but many of these are finding plenty of outlet in their own business, and undoubtedly the numerous monuments to industrial failures were reared by means of funds supplied by those who retained a faith in the future of the land of their birth, and who possessed a desire to share in the honor of future developments. Many a creamery in a country town is made possible by the contributions of the business men of the place, and with little hope of ever securing more than a 6% dividend. Industries are often started, or re-opened, practically as a community enterprise, to provide employment, and with the hope that the undertaking will remain a permanent asset to the town or village. Yet, in spite of this, promoters in search of funds complain that they cannot interest the people in their project; and one reason seems to be that those who might be expected to have some ready capital have it invested already, and others are not willing to run the chances which a new enterprise necessitates. The conservatism on the part of men of means of which the average Maritimer complains, is very often merely a reflection of his own state of mind, and the situation in which his own finances are to be found. Undoubtedly the savings would be sufficient to provide more capital; yet, since much of it is held in small lots, it is difficult to secure even if the people were willing to invest it, and, therefore, it finds its way into banks and trusts.

One enterprising Maritimer tells of a business project which he had, for which he needed \$50,000.00 but, when he approached a Trust Company he was told that if it were \$150,000.00 they could talk business. This is a clear cut example of the difficulties experienced by many who wish to initiate a new enterprise, it is too small. Before an issue is underwritten, considerable expense must be incurred for investigation, which becomes increasingly burdensome as the amount of the issue declines; but, even if this initial difficulty is surmounted, the selling costs, including advertising, restrict a small issue to a local market, with consequent disadvantages. When a bond is sold to a customer in a relatively small community, the buyer expects to be able to turn it in at a later date if he needs finances. This is done, naturally, at a discount, and the average small investor does not seem to be able to appreciate the necessity of this discount, which leaves him disgruntled and places the financing corporation under the necessity of finding more local customers. The result is that the Company finds it is carrying large numbers of the bonds

itself, which was not the original intention. It is not to be wondered at, under these circumstances, that Maritimers complain that they have difficulties in securing money for legitimate enterprises. Although local finance houses may to some extent relieve the situation, they will do so at an ever-increasing cost as the issues marketed become smaller. Outside of the trust companies, it is possible to use the services of a brokerage house, which are usually very costly, or for the entrepreneur to undertake to market the stocks or bonds himself.

The growing number of larger firms now doing business in these Provinces might assist to break down the traditional conservatism of the people towards investments, and also tend to create a larger market by making the purchase of stocks and bonds for permanent investment a more general practice.

Banks always come in for their meed of blame, and the Central Canadian control is usually shouldered with the responsibility. Central Canadians have their criticisms to make as well, but cannot level the same accusation at the banks as can the Maritimers. The recollection that control of banks originating in the Maritimes has been transferred to Central Canada dies hard. Undoubtedly, Canadian Banks do lack a great degree of elasticity due to the centralization which exists; but it seems to be the lesser of two evils: less elasticity or less stability.

CHAPTER X.

Transportation

It is quite apparent from what has been already said that transportation is of vital importance to the Maritimes, and this importance is reflected in the representations made to the Duncan Commission, in the Report itself, and the agitation carried on by the press and through pamphlets for the past few years.²¹⁶ The Maritimes Freight Rates Act, the direct result of the investigations of the Duncan Commission, went far to allay the dissatisfaction which existed in the Maritimes;²¹⁷ and, were the powers of the Board of Railway Commissioners to be enlarged in accordance with the recommendations of the Report, a means would be available to make adjustments, and to consider claims which are now not deemed to come within the jurisdiction of the Board.²¹⁸

A considerable amount of the traffic within the Province consists of shipments in less than carload lots, and extra high rates weigh unduly heavily upon such commerce.²¹⁹ But it is reaching the Central and Western Canadian markets that cause the Maritimers so much concern, and in obtaining a fair share of the Canadian traffic which now flows through American ports. Freight rates, of course, constitute a special study in themselves, and it is by no means an easy task to decide at what rate it is possible to transport any given commodity. The problem of overhead is one which must be taken into account, and makes possible wide variations. When it comes to through freights, and the shipment of such staples as wheat, available cargo space is a very important factor.²²⁰ Saint John, for some years, has been getting some grain, about half of which is United States', but Halifax has had very little. A steady development in transportation is what must be looked for, as shipments will not come if facilities are not to be had.

It is surprising to learn that, until about 1921, practically all the shipments of potatoes from New Brunswick to Cuba passed through Boston;²²¹ that even to-day, shipments from various sections reach this market through American ports,²²² and fish of various kinds go to the West Indies on American vessels and through American firms.²²³ As trade increases, more direct shipping will be possible, and consequently more freight will find its way through the ports of the Maritime Provinces.

With increasing attention being paid to trade with the West Indies and South America, it ought to be possible to extend year round steamship communications in the near future, bringing benefits not only to the Maritimes, but to the rest of the Dominion as well.²²⁴

CHAPTER XI.

Education

Of recent years, as Technical and Vocational education has been making its way to the front, and as the cost to the state has steadily mounted, economists have become more directly interested in education, and rightly so. The industrial activities of a people are decidedly influenced by the type of education they receive, although the economic system might be considered as basic to the type and standard of education made available. Properly designed, any system of instruction ought to train the younger generation in a manner that will best equip them to take advantage of the economic possibilities which prevail. But, very often, owing to environmental influences, there is a tendency to stress unduly one phase of economic life in preference to another; and, in the Maritimes generally it has been felt necessary to lay emphasis upon Agriculture in order to counterbalance the urbanized literature, and relatively urbanized environment which reaches even to the farm. In Denmark, where the country is primarily agricultural, there is no need to feature this aspect of education except when the pupil is proceeding to an Agricultural College; in England, on the other hand, much work is done in the schools to create an interest in country life, thereby making it possible for the young citizen to get a better balanced picture of the entire economic world into which he is about to enter. The Maritimes, being in a similar situation to England, in that their literature and environment is chiefly urbanized have followed the example set by Great Britain and other countries.

In Nova Scotia, Professor deWolfe was appointed Director of Rural Education during the school year of 1927-1928, but his duties are performed as part of the functions of the Department of Education.²²⁵ In New Brunswick, on the other hand, similar work to that carried on by the Director in Nova Scotia is performed by an official of the Department of Agriculture, and the expenses of the work are met out of the vote for this Department.²²⁶ In Vocational Education, a similar situation exists between the two Provinces. Nova Scotia has developed technical education to a considerable degree, most of which has been conducted by the Nova Scotia Technical College, but the prevocational classes at New Glasgow are directly under the Department of Education, and it would appear from the Reports of the Superintendent of Education that, when vocational high schools come—as they surely will in the near future—they will be directly under his jurisdiction.²²⁷ New Brunswick has developed her vocational education independent of the Department of Education, the grants being made separately, and the management being

quite independent.²²⁸ Owing to the fact that, in these vocational schools, regular classes in arts are given, and also to the fact that pupils are being transferred eventually from the Public Schools into Pre-Vocational or Vocational schools, it seems highly desirable that the system should be under centralized control, although it would be advisable to follow the lead of Nova Scotia by appointing a departmental director.

Vocational education is assisted by the Dominion Government, a grant for this purpose having been made in 1919, which was to cover ten years, but the payments to each Province were made on the basis of "dollar for dollar". The beginning of the movement in New Brunswick coincided with the passing of the Act, and therefore the full benefit was enjoyed; but, in Nova Scotia, technical education, which is also included under the head of "Vocational" was commenced in 1907.²²⁹ Indeed, Nova Scotia pioneered the way in Canada, and, when it came time to take advantage of the Dominion subvention, the finances of the Province would not permit it. In 1929, the Act was amended so as to make it possible for those provinces which had not received their quota to take advantage of the funds available within the next five years, and it is to be hoped that Nova Scotia will be able to take up her allotment.

Prince Edward Island, in 1920, opened an Agricultural and Technical School at Charlottetown; the funds being supplied equally under the Agricultural Instruction Act,²³⁰ the Technical Education Act,²³¹ and from the Provincial Department of Education. Following the recommendation of the Duncan Commission,²³² agricultural education was considered as "vocational", and now the Island is able to take advantage of the funds which have been set aside for her.

The problem which is of chief concern at present is that of financing the public and high schools of the Provinces. In urban centres, this problem is not so acute, as the whole city or town is considered as the unit for administration, and equal assessments and rates of taxation prevail. In the rural sections of the country, assessments are left to the local authority. Schools are financed in part out of taxation levied upon the district, in part out of a county fund, and, where the districts are considered as "poor", grants are given by the Provincial Government. New Brunswick distributes the county fund on a basis which permits of increases as the assessed valuation for the district declines. A similar basis exists for grants from the Provincial Government. This system, with no uniform method of assessment, places a premium upon low valuation, and in 1923 one district actually received more than the amount paid the teacher.²³³ Nova Scotia distributes her county funds partly on a flat rate to each school district, and partly on the total days attendance, while special grants are made to teachers of poor districts. Although this arrangement does not place such a heavy premium upon under-valuation, it fails to provide as equitable treatment as the arrangement in New Bruns-

wick. One school district in a county of Nova Scotia was taxed in 1927 56c. on the \$100, while in the case of another in the same county the tax levied was \$6.36 on \$100. In spite of this heavy rate the latter district was unable to provide any but the poorest class of teacher and the bare essentials in equipment, and was obliged to go on the "poor" list to accomplish even this.

The solution for this situation is, as has been pointed out by the Superintendent of Education for Nova Scotia,²³⁴ and by Professor Keirstead,²³⁵ an enlarged school district, equal assessment and equal rates, and an equalization fund, distributed upon the basis of need. This will bring to the rural sections the same advantages as exist in the cities. Dr. Munroe has been active in his Province to bring the situation clearly before the citizens; but, in New Brunswick, the absurd situation pointed out by Dr. Keirstead does not seem to have received much attention.

In Prince Edward Island there is not the same variation in the prosperity of school districts as is to be found in either of the other provinces, and the distribution of the general funds does not encourage low assessments.

This question of assessment and rates, it might be mentioned, is not confined to school districts, but is at the bottom of much of the difficulties of Municipal finance. Reforms are difficult to bring about in any taxation system, and especially in a system pertaining to an agricultural community. Education is one field in which all are interested, however, and where the sympathies of the people may be most easily enlisted. If a start is made here, where it is most urgently needed, other reforms will be easier, and to ascertain the most desirable forms a study would be required for the various Provinces, a study similar to that made by Dr. Keirstead for New Brunswick.

CHAPTER XII.

Dominion Subsidies

When the Duncan Commission recommended certain increases in the amounts to be paid to the three Maritime Provinces, it did so with the understanding that this increase was to be an interim provision, awaiting the fuller investigation of the entire question by the Dominion Government.²³⁶ A Committee was appointed under the Chairmanship of Mr. Gordon Scott, Advisor to the Royal Commission, but nothing definite seems to have developed from the work of the Committee. Perhaps the difficulty was to find a basis upon which to rest the investigation. If the amount contributed by each section of the Dominion be assumed as the measuring rod for disbursements to the Provinces, how are these amounts to be ascertained? Certainly the tax returns are no criterion; for, while Montreal, consequently Quebec, might be credited with paying the tax, as the firm making the returns is registered there; contributions may have come from all over Canada accordingly as the business was distributed. With tariffs, the situation is even more complicated than with other forms of taxation, for, not only is the incidence of this tax as difficult to trace as any other, but in so far as the tariff affords protection, and protection raises prices, contributions are made by all communities which do not appear in any tax returns. Obviously, then, the amount of taxes paid indirectly by citizens of the Provinces to the Federal Government cannot be ascertained, and some other measuring rod must be found.

Not only does the question of Dominion subsidies demand investigation, but also the assistance given for other purposes, such as the grant for Vocational Education and Agricultural development. When these sums are given for a limited number of years, and when they are used to cover current expenses, the Provinces are under the necessity of either dropping the work carried on by means of the assistance received from the Dominion Government or finding funds of their own for the purpose. With the ever increasing demands being made upon Provincial Governments, the limited range of taxation allowed to them soon becomes worked to the limit, and the projects stimulated by the Dominion grants are abandoned. This situation has a tendency to develop "pork barrel politics", something which should be guarded against in Canada at all cost. Either wider powers of taxation must be eventually granted to the Provinces, or the Federal Government must become a partner with the Provinces in many joint undertakings. Here again, the difficulty of jurisdiction will arise, and duplicated efforts might be the result, as seems to be the case in certain branches of Agriculture.

There is nothing that the Provinces can do in the matter, except press the Federal Government for action, study their own situation as carefully as possible, and endeavor to assist in a permanent solution. Unfortunately for Canada, there has existed for a long time, perhaps from the first, an ever growing tendency for Provincial Governments of the same complexion as the Federal House to join hands with the central Government, while those on the other side do everything in their power to complicate matters. If the Maritime Provinces would get together and demonstrate a conscientious desire to find a solution to a difficult problem for the Dominion, they would do much to place Canadian politics upon a plane higher than has been deemed possible by many.

CHAPTER XIII.

General Proposals

A GENERAL CONFERENCE

As a step in this direction, it would be advisable to call a conference of all those interested in Maritime problems who might make a contribution, whether or not they resided in the Maritimes. At this Conference, the problems of these Provinces could be thoroughly discussed, both those of a local nature and those which touch the Dominion as well.

Such a conference would go far to reconcile different schools of thought, to crystallize the problems, and to make possible united action. The Canadian scholars with an interest in the Maritime problems should not be overlooked; for, not only will they be in a position to assist in clarifying the situation, but they will also be more interested in the problems, and might, on that account, be stimulated to do more in the way of investigating problems hitherto untouched.

As an outgrowth of such a conference, there should come a plan of attack, a programme of action which would elicit more support because of the authority behind it. Problems would be defined; and, where possible, remedies suggested; where not, machinery for the discovery of solutions recommended.

Some of the problems that ought to be discussed are:

First: Federal Subsidies and Subventions. If it is not possible to reach any conclusion as to the bases upon which these should be settled, at least it would be a step in advance to have a resolution to the effect that a Committee of Experts be appointed to investigate the question.

Second: Problems of Municipal Finance, especially the question of taxation for educational purposes.

Third: The difficulties involved in agricultural extension work.

Fourth: The problem of the small industry, involving technique, finance, and marketing.

Fifth: Market surveys, and the possibility of establishing a permanent body for the investigation of economic questions of the Dominion.

Sixth: The advisability of sanctioning and calling for action upon two resolutions passed at the Annual Convention of the Maritime Board of Trade, to the effect that the Dominion Government, along with the two Railway

Companies, be asked to undertake an economic survey of the Maritimes;²³⁷ the other that a commission be appointed to investigate the economic ills of the various sections of Canada.

Seventh: The unimplemented recommendations of the Duncan Commission will inevitably come up for discussion, and the enlarged powers which that body felt should be given the Railway Commission still remain to be written into the Dominion Statutes. Whatever plan of action is deemed advisable, it should provide machinery that would take care of this very vital question.

Undoubtedly the Maritime Board of Trade is the one body in a position to arrange such a conference, and the vigor with which the members of this Board prosecute their work leaves little doubt about the outcome.

AN ECONOMIC SURVEY OF THE MARITIMES

The Resolution passed at the Annual Convention of the Maritime Board of Trade to the effect that an economic survey of the Maritimes be undertaken ought to be acted upon, and the Federal Government requested to undertake the work in conjunction with the two Railway Companies. Not only should the survey be undertaken with a view to discovering major projects, but also, if indeed, not chiefly, to learn of ways and means of bringing to backward areas a measure of prosperity by the development of latent resources, or by industries which might be located there with advantage.

In such a survey, a great deal will depend upon the personnel of those conducting the work, and care ought to be exercised in securing the most capable investigators.

AN ECONOMIC DEVELOPMENT BOARD

Granting that the survey is made, and the discoveries worthy of careful consideration, little might be gained unless there be instituted some permanent body that will be responsible for seeing that the information is put to good use. A development board of some sort is the most feasible. Such an organization ought to be inter-provincial to be most effective. The three Governments ought to contribute a fixed amount for a few years, perhaps the most important cities could be induced to add their quota, and the support of leading industries might be secured.²³⁸

Several types of organization have been considered, including the "Research" variety; such, for example, as the Ontario Research Foundation. The more one sees and learns of the work being done in Ontario under the skilful direction of Mr. Speakman, the more does one become impressed with the value of such an institution; but, conditions in the Maritimes are so different from conditions in Ontario that this form seems hardly suitable. To begin with, it is desirable that all three Governments should co-operate; and, to create a Foundation like the one in Ontario would require considerable sums

from the various Provinces, which might be difficult to obtain. In the second place, owing to the small size of most of the business units, and the relatively independent position of the few major concerns, what is needed more than research is an acquaintance with the best known processes of manufacture, other lines of work of a complementary character, and marketing facilities and information.

The fishing industry is well looked after by the Biological Board, the Nova Scotia Technical College lends a hand in questions concerning the minerals of Nova Scotia; the new Provincial building at Fredericton and the recently appointed Mineralogist promise ample facilities for and supervision of similar work in New Brunswick, as well as for Forestry; the Experimental Farms, the Agricultural College at Truro, and access to the Farm at Ottawa, assure a fair amount of attention to agricultural problems; and the National Research Council is available for special services, and has already rendered much aid; these and other facilities obviate, to some degree, the urgent necessity of a Research foundation, although ample work could be found for one were it to be established.

A permanent staff would be required, and the one chiefly responsible for the work ought to be an exceptionally capable man, with ample business training, and an appreciation of an academic approach to problems. It will be necessary to come into close touch with the industries, to learn of their needs and possibilities. Two aspects of the economic structure of the Maritimes must never be overlooked by those endeavoring to grapple with the problems of industry in these Provinces, namely, the marked diversification which exists and the close inter-locking or inter-relation which so generally prevails. The many resources of the area account for the diversification, whereas the inter-relation is often due to the limited nature of some of these resources, seasonal operations, and the small size of industrial units accounted for by a complex of production and marketing conditions. By dovetailing different industries and operations it has been possible to greatly lessen the severity of seasonal fluctuations, to cut overhead costs both for firm and community, permitting both to thrive where otherwise they might languish and decline. Diversification has taken much of the swing out of the business cycle for the Maritimes. The Lumber and Iron and Steel industries are subject to very violent fluctuations, and it is rather remarkable that the present depression has not struck with greater severity the Atlantic Provinces where these two industries have been considered to have such a dominating influence. But not only has this diversification lessened seasonal and cyclical fluctuations, but it has also helped to overcome the disadvantage which arises out of a dependence on markets where a single crop supplies the buying power. The well known correlation between the Cuban market for potatoes and the present plight of the cane sugar industry needs but to be mentioned to make obvious this fact. By keeping these two aspects clearly in mind, therefore, the De-

velopment Board can make no serious blunder. It is quite possible that more will be accomplished in finding additional lines for industries already developed than in developing new industries, in stimulating the manufacture of those goods used in the Maritimes but now shipped into the Provinces, than in seeking for novel enterprises. The local market ought to be surveyed, if this is not already done, and an eye kept to those industries which will use raw materials produced in the Provinces. When the Canadian market is considered, it must be kept well in mind that there is a long rail haul to the nearest important point which lies outside the Maritimes, and only the production of those commodities which will be able to withstand the heavy transportation charges, and which can be marketed under the other handicaps which distance imposes, should be encouraged. Outside the Canadian market, there is Newfoundland, the West Indies, and, next, perhaps, South America. The English market might be tapped in many cases and its possibilities are fairly well known through the work done by the Imperial Economic Committee and the Empire Marketing Board.

One serious problem which this Board ought to consider from the first is that of bringing to the small industry information concerning the best and latest developments in technique, and in placing its product upon a distant market when the output will not permit an extensive sales organization. The presence of the Maritimes Trade Commissioner at Toronto helps considerably at present, but a link is needed to make the contact with the individual firms more complete and effective. Perhaps it would be possible for a commission house to pay its way and show a profit by acting as agent for a large number of small firms, but this must be investigated by someone who knows the ground well, and who is coming into contact with the firms needing the service.

An Advisory Board would be necessary, which ought to be representative of the main branches of industry and headed by some Maritimer who commands respect in all three Provinces.

If investigation work of an extensive nature is required, the Universities of the Maritimes would be able to supply advanced students, with sufficient training in economics, whose services during the Summer could be obtained at a relatively low cost.

The one aspect of this Board which is likely to raise doubts is that it is inter-provincial. But the Maritimes have worked together on many occasions, especially of late. For a number of years the three provinces supported the Transportation Commission of the Maritime Board of Trade, and are still contributing to the upkeep of the Trade Commission in Ontario. The Maritime Board of Trade is a splendid example of inter-provincial team work, and the unity of the area is well illustrated by "Maritime Sections" of various Canadian-wide organizations, and in the Maritime Associations which stretch across the Dominion from Montreal to Vancouver.

AN ALTERNATIVE

In 1926 the Industrial Development Division of the Department of Agriculture of the Province of Nova Scotia was established, and Professor Flynn, of the Nova Scotia Technical College, was engaged as the Industrial Development Engineer. Although at the outset a Board was formed fairly representative of the industrial life of the Province, this body does not appear to have been very active, most of the work being left to the Engineer. The 1930 Report of the Department contains an account of the activities of the Division, and reports a survey made of the Province in connection with the use and possibilities of development of various kinds of containers. What has come out of this is not mentioned; developments will undoubtedly follow. Certain other activities not mentioned in the Report have been carried on. In a radio talk given during the Summer of 1930, the development of the manufacture of insulating material from the native eel grass was credited to this Division, although the writer has not been able to secure any published information upon the subject.

If the work had been kept free from a Department of the Government from the outset, it is quite likely that more assistance would have been given by the voluntary members.

Should it prove impossible to establish an inter-provincial Board, New Brunswick would be well advised to follow the lead of her sister Province and establish a Development Board to meet the requirements of the local industries. However, several defects of the Nova Scotia Board should be avoided; the Board, while supported in part by Government funds, should not be a division of any department of, or controlled by, the Government; and emphasis should not be placed upon bringing into existence new industries so much as upon improvement and exploitation of those already established, and upon the problem of marketing.

A ROYAL COMMISSION ON CANADIAN ECONOMIC PROBLEMS

The Resolution passed at the Annual Convention of the Maritime Board of Trade, mentioned elsewhere, was prompted, as one would gather from the report released to the press, by the excellent service rendered by the Duncan Commission. Certainly Sir Andrew Rae Duncan handled a difficult situation with consummate skill, and acute judgment; but, in so far as the "Rights" of the Maritimes were admittedly in principle, and in so far as the major problems of the rest of Canada, as well, indeed, as the Maritimes, are chiefly economic, a Commission, with the responsibility of investigating the major problems of all Canada should have more men experienced in dealing with economic problems than made up the personnel of the Duncan Commission. While the Duncan Commission decided that the Claims made by the Maritimes for an increase in the Grants from the Federal Government were justified, this new Commission should attempt to settle upon a basis more equit-

able than that which now exists. The relationship between Federal and Provincial Governments needs to be thoroughly examined in so far as both are operating in a common field. It was mentioned in the discussion of agriculture that a certain amount of overlapping seemed to exist; and here the Commission could render a good service by developing a plan whereby these operations could be carried on with the maximum degree of efficiency.

The Agricultural Instruction Act, and the Technical Education Act, which have been mentioned on several occasions, are two instances where some of the Provinces have been decidedly handicapped because of grants given which have not proven to be permanent. Where the Federal Government is called upon, or volunteers to render assistance, excepting where it is a matter of capital expenditure only, safeguards should be instituted to assure the Provinces that the burden will not be too heavy once the subventions cease. The Commission might well inquire into this problem.

Aside from investigations of problems of public finance and government administration, there are others that are fundamentally industrial and commercial. There is the very serious problem mentioned in the discussion of the fisheries, of the transition from the dried to the fresh fish business, and the shifting in population which this seems to necessitate. A Committee of men, capable students of economics and industrial problems, with all the facilities for collecting information which a Royal Commission affords, ought to be able to make very valuable contributions.

Owing to the unsatisfactory results from investigations of many Royal Commissions in Canada, it would be wise to adopt the English term "Committee" and to take the Balfour and Colwin Committees as examples.

A PERMANENT CANADIAN ECONOMIC COMMITTEE

To add to the already long list of conventions, commissions, and committees, still another, and that with Dominion-wide functions, might cause the reader to wonder if, after all, this discussion is really upon the *Economic Welfare of the Maritime Provinces*; but the Maritimes are a part of Canada, and problems in this section of the Dominion are very often a reflection of difficulties elsewhere. Indeed, Canada, in the industrial world of today, is in a comparative position with the Maritimes in Canada: a small population scattered along a thin line across the Continent, exploiting the field, the mine, and the forest, and struggling to build up an industrial structure, made difficult by small markets and vast distances. Manufactories are relatively small, and diversification has been necessary to a considerable degree. The difficulties of finding markets, of keeping abreast of the times owing to the excessive overhead of research for a small industry, are only less acute elsewhere in Canada than in the Maritimes. A few giants there are, of course, but only a few.

In agriculture it has been well recognized that the individual farmer is unable to carry out the necessary research work, neither is he in a position to

secure the most adequate information concerning his business readily enough to enable him to keep abreast of the times without the educational work of the Government. Agriculture is, for the most part, a small scale business, and small scale businesses in other fields of activity experience the same difficulties. In the industrial world of to-day, where changes are taking place more quickly than ever before, it is positively essential to the welfare of any Nation that it be well informed as to what is happening and be in a position to take steps to meet the new emergency. The largest of the large corporations are in a position to and do employ their own body of experts; Canada has taken steps to make available the best and latest information of a technical nature in certain branches of activity through the National Research Council, and the valuable branch of this organization, the Biological Board. In agriculture, the Experimental Farms have made valuable contributions, and continue to do so; and recently with the appointment of Dr. J. F. Booth as Commissioner of the Agricultural Economics Branch of the Department of Agriculture, has recognized the need of more information of an economic nature. With the appointment of Sir Josiah Stamp as Chairman of the Commission to investigate the problem of marketing our Wheat, there is still more hope; for this indicates the recognition of the need of expert guidance and scientific approach.

The problems that can be suggested are many, but only those which have been referred to in the course of this analysis, or closely related, will be mentioned.

It will be recalled that one of the problems confronting the lumber industry is that of more markets for the variety of products produced or that can be produced. The lumber industry is far more extensive than that covered in this discussion and the investigation would certainly embrace the entire lumber industry of Canada. The Imperial Economic Committee, which has done much good work concerning the British market for Empire products, has set a good example, and their Tenth Report on Timber will serve as a good guide and a good standard.

Also vital to the Maritimes as well as to the rest of Canada is the problem raised in the discussion on agriculture, of disseminating information among the agricultural population. This is primarily a question of education, and quite within the field of Governmental activity. It is, in nature, of the same sort as that which is experienced in small scale industries, but more difficult to solve. Three reports published by the Empire Marketing Board have a bearing upon this subject, and here again the Committee will have some valuable assistance in its study of the conditions peculiar to Canada and to the various Provinces and regions.

Of particular interest to the Maritimes would be an investigation of areas which have had serious difficulties in finding a suitable place in the economy of their Province. Already the proposed Committee which it is hoped will be

brought into existence to make an economic survey of the Maritimes has been shouldered with the responsibility of paying special attention to such sections, and the task of helping wherever possible has been allotted to the Economic Development Board, but the former of these is transitory, while the latter will have at its disposal relatively limited finances, and this permanent body would be well equipped to do what others leave undone, which is very likely to be considerable, owing to the magnitude and complicated nature of the problem.

When these problems have been investigated, there will be many more waiting: marketing, fish, agricultural products, and manufactures, inter-provincial trade, and industrial technique, new possibilities for development of industries to supply either the home or outside markets; in short, the list is as extensive as the industries are varied.

CHAPTER XIV.

Conclusion

Many more problems have been raised than solved, but it is hoped that some things of value will be found in the analysis. When a comprehensive history of the fishing industry has been written; when the influence of the West Indies upon the Maritimes has been made clear; when someone has analyzed the influence of the development of the St. Lawrence Valley upon the Atlantic Provinces; when the economic aspects of agricultural changes have been made available; when the romance has been taken out of the shipbuilding industry and the cold facts have been laid bare; when these, along with present available works, have been placed at the students' disposal, then it might be possible, in the course of a few years, to fill in the interstices, and present a comprehensive survey of the factors at work moulding the economic life of the people of the Maritimes. Unquestionably the economic welfare of these people by the sea depends upon grasping the significance of these forces, and so setting their sails that the fullest benefit may be derived. To discover these forces is the task of the Maritimes; yes, and those of the rest of Canada, too. For good or ill, these Provinces are a part of Canada, and despite the occasional murmur of discontent, there is little likelihood of them ever endeavoring to benefit their position outside the boundaries of the Dominion; but, these murmurs should be heeded, traced to their source, and the cause removed, if possible. Canada as a whole has problems, too; and what the people of the Maritimes do to solve their own problems will certainly be reflected back in a lessening of the difficulties of the other sections. They have not failed the Dominion in the past, they will not fail her in the future; and too much Maritime blood pulsates through the veins of citizens of the other provinces to let it be thought that they will not receive most hearty support in their difficulties. However, the initiative must be taken by the people themselves, as, indeed, it is being taken; and, by doing so, they not only enlist the aid of the other citizens of Canada, but point the way to a more successful future for all of those who are content to seek their fortunes under the British Flag in North America.

Notes and References

INTRODUCTION

- (1)—*The Economics of Welfare*, by A. C. Pigou, M.A., Professor of Political Economy in the University of Cambridge, 1924. p. 10.
- (2) *The Cambridge History of the British Empire*, Vol. VI, Canada and Newfoundland. Article on "The "Economic Development of Canada", subtitle "Maritime Provinces", pp 659-671.
- (3)—*Economic History of the American People*, by Ernest Ludlow Bogart, p. 263. See also *Maritime History of Massachusetts*, by S. E. Morrison.
- (4)—*New Zealand in the Making*, by Condliffe, J. B. Note particularly introductory chapter. (London, 1929).

THE FOREST INDUSTRIES

- (5)—*Canada Year Book*, 1930. p. 189, table IV.
- (6)—*Ibid.* p. 38.
- (7)—B. E. Fernow and C. D. Howe, *Forest Conditions of Nova Scotia*, Commission of Conservation, Ottawa, 1912. p. 38.
- (8)—*Canada Year Book*, 1927-28. p. 303.
- (9)—*Report of Crown Land Department of New Brunswick*, 1928, p. 86. Experiments are being made in the girdling of hardwoods.
- (10)—See letter of Mr. Dunfield which appeared in the *Halifax Herald*, during March, 1929.
- (11)—*Forests and Forestry in New Brunswick* (Fredericton, 1928). A Special Report prepared for submission to the British Empire Forestry Conference. pp. 68-9. The percentage given will be altered somewhat in considering the total stand, owing to lack of cutting restrictions on privately owned areas.
- (12)—*Report of The Royal Commission on Pulpwood, Canada.* (Ottawa, 1924). p. 12.
- (13)—The percentages given have been taken from material contained in *Report of the Royal Commission on Pulpwood*, op. cit., pp. 21 and 35, in issues of the annual *Census of the Lumber Industry*, and in the *Preliminary Report on the Lumber Industry* for 1928.
- (14)—*Royal Commission on Pulpwood*, op. cit. pp. 26 and 38.
- (15)—*Ibid.* p. 15.
- (16)—*Forests and Forestry in New Brunswick*, op. cit. p. 27.
- (17)—*Royal Commission on Pulpwood*, op. cit. p. 14.
- (18)—*Ibid.* p. 16. See also *Forests and Forestry in Nova Scotia*. Special Report to the British Empire Forestry Conference, Halifax, 1928. pp. 12-13. The area referred to includes lease of 814 square miles to the Oxford Pulp & Paper Company, which the Royal Commission considers as practically alienated from the Crown. The only other large holding of importance is the lease formerly held by the Clyde & Sissiboo Pulp & Paper Company of some 59.58 square miles, which has been recently transferred to the Mersey Pulp & Paper Company.
- (19)—*Royal Commission on Pulpwood*, op. cit. pp. 29, 30.

- (20)—*Telegraph Journal*, Saint John, Sept. 7, 1929, p. 3, and the *Canada Lumberman*, Oct. 1, 1929, p. 37.
- (21)—*Forests and Forestry in New Brunswick*, op. cit. p. 30.
- (22)—*Problems of the Maritime Provinces*, by Prof. C. R. Fay, in the *Dalhousie Review*, 1924-5, p. 443.
- (23)—*The Threat to Timber*, by A. C. McDougall, in *Saturday Night*, Toronto, January 24, 1931.
- (24)—*Forests and Forestry in New Brunswick*, op. cit. pp. 68-69.
- (25)—*B. E. Fernow and C. D. Howe*, op. cit. pp. 18-19. The table from which the figures are taken was prepared seventeen years ago, and conditions have altered to some extent since that time.
- (26)—*Royal Commission on Pulpwood*, op. cit. p. 27.
- (27)—*Mergers Seen as Only Solution of Lumber Troubles*, article in *Financial Timber*, from its Vancouver Bureau, February 6, 1931.

THE MINING INDUSTRY

- (28)—*Reports of Department of Agriculture, Prince Edward Island*, 1921-2-3-4. See also Financial Statements in the Department's Reports for the years 1925-6-7.
- (29)—*Canada Year Book*, 1930, p. 189.
- (30)—*Report on the Mines, Province of Nova Scotia*, 1928, p. 73.
- (31)—*Anhydrite Plasters and Cements, Investigations on the Treatment of Nova Scotia Oil Shales*. These two pamphlets by A. E. Flynn, A.R.S.M., Professor of Mining Engineering, Nova Scotia Technical College, Halifax, are issued by the Nova Scotia Department of Public Works and Mines.
- (32)—*Canada Year Book*, 1930, op. cit. p. 189.
- (33)—*New Brunswick Statement* prepared by G. L. Miller, B.Sc., C.E., M.Sc., F., Deputy Land Surveyor, p. 30.
- (34)—*Report of the Department of Lands and Mines, of the Province of New Brunswick*, 1929, p. 18.
- (35)—*Canada Year Book*, 1930, op. cit. p. 331.
- (36)—*Annual Report on the Mines, Province of Nova Scotia*, 1929. Part I. p. 215.
- (37)—**Gypsum in Nova Scotia*, p. 9.
- (38)—*Report of Department of Lands and Mines, New Brunswick*, 1929, op. cit. p. 55.
- (39)—*The Mineral Resources of Canada*, by E. S. Moore, M.A., Ph.D., Professor of Economic Geology in the University of Toronto, p. 122.
- (40)—*Annual Report on the Mines, Nova Scotia*, 1929, Part I. op. cit. pp. 255-256.
- (41)—**A Review of Gold Mining in Nova Scotia*, p. 3.
- (42)—*Ibid.* p. 5.
- (43)—*Investigations on the Treatment of Nova Scotia Oil Shales*, op. cit. p. 89. See also *Mineral Resources of Canada*, op. cit. pp. 211-2-3.
- (44)—*Ibid.* p. 221.
- (45)—*Ibid.* p. 270, and **Granite in Nova Scotia*.
- (46)—*Mineral Resources of Canada*, op. cit. p. 267, and **Silica in Nova Scotia*.
- (47)—**Limestone and Dolomite in Nova Scotia*.
- (48)—**Sandstones and Grindstones in Nova Scotia*.
- (49)—*Mineral Resources of Canada*, op. cit. p. 259, and *Report of Department of Lands and Mines, New Brunswick*, 1929. op. cit. p. 17.

- (50)—**Copper in Nova Scotia*, and **Barytes in Nova Scotia*.
 (51)—**Slate in Nova Scotia*, and *Mineral Resources of Canada*, op. cit. p. 269.
 (52)—*Ibid*, p 88, and **Lead and Zinc in Nova Scotia*.
 (53)—*Mineral Resources of Canada*, op. cit. p. 151.
 (54)—*Ibid*, p. 145.
 (55)—**Talc and Soapstone in Nova Scotia*.
 (56)—*Report of the Royal Commission on Maritime Claims, 1926*. Section 34. p. 42.
 *The pamphlets are the work of Mr. J. P. Messervey, Deputy Inspector of Mines, and are published by the Nova Scotia Department of Public Works and Mines.

THE COAL INDUSTRY

- (57)—*Mineral Resources of the World*.
 1913—World Production.....1,478,000,000 tons
 1929—World Production.....1,540,000,000 tons
 (58)—*Memorandum Containing Data in Regard to an All Canadian and British Fuel Supply*, p.18. Bulletin No. 95, issued by the Dominion Fuel Board, 1926-7.
 (59)—*Dominion Fuel Board, Second Progress Report, 1923-1928*, p.14. For an excellent discussion of factors which have led to over-expansion in the American fields and the resulting consequences, see *Labour Problems in the American Bituminous Coal Industry*, by Prof. G. W. Stocking, in the *Economic Journal*, 1927, p. 213.
 (60)—*The Coal Resources of Canada*, by M. J. Patton. Bulletin No. 50 of the Departments of History and Political and Economic Science, Queen's University, Kingston, Canada. February, 1925.
 (61)—*The Coal Situation*, an address by Dr. E. S. Moore, Professor of Economic Geology in the University of Toronto, before the Empire Club of Canada, Toronto, April, 1923, published in *Empire Club of Canada, Addresses delivered to the Members during the year 1923*. See also *The Fuel Situation in Canada*, by B. F. Haanel, B.Sc., M.E.I.C., Engineering Institute of Canada, Ottawa, 1925, and two essays in *Essays on Canadian Economic Problems*, Vol. 11, Royal Bank of Canada, Economic Fellowship Competition, 1928-1929.
 (62)—*Coal Statistics for Canada, 1929*. Ottawa. Table 26, p. 23.
 (63)—*Interim Report of the Dominion Fuel Board, 1923*, p. 13.
 (64)—*The Coal Trade in Nova Scotia—A Re-Statement of its Position*, by Francis W. Gray (Presidential address delivered at the 36th Annual Meeting of the Mining Society of Nova Scotia, at Halifax, June 19, 1928), p. 6.
 (65)—*Coal Statistics for Canada, 1929*, op. cit. Table 80, p. 53.
 (66)—*Mining Coal Under the Sea in Nova Scotia*, by Francis W. Gray, in *The Canadian Mining and Metallurgical Bulletin*, June, 1927, p. 638.
 (67)—*Annual Report on the Mines, Nova Scotia, 1929*, Part I, p. 221.

PRODUCTION OF COAL BY COUNTIES

Tons Raised

	1927	1928	1929
Cape Breton.....	5,140,116	4,535,736	4,824,102
Inverness.....	117,305	120,924	140,054
Pictou	783,805	725,783	675,730
Cumberland	601,979	637,760	699,606
	<hr/> 6,643,205	<hr/> 6,020,203	<hr/> 6,339,492

- (68)—*The Coal Trade in Nova Scotia*, by F. W. Gray, op. cit. p.10.
- (69)—*Mining Coal Under the Sea in Nova Scotia*, by F. W. Gray, op. cit. pp. 719-720.
- (70)—*Economic and Social Aspects of the Nova Scotia Coal Industry*, by Eugene Forsey, M.A., p. 35. (National Problems of Canada).
- (71)—For a description of No. 1 B. Colliery see *No. 1 B. Colliery of the Dominion Coal Company, Limited*, by A. L. Hay, M.E.I.C., paper read before the Cape Breton Branch, Engineering Institute of Canada, August, 1925, *Engineering Journal*.
- (72)—*Mining Coal Under the Sea in Nova Scotia*, by F. W. Gray, op. cit. p. 704.
- (73)—*Report of Provincial Royal Commission on Coal Mining Industry in Nova Scotia*, January, 1926. p. 3.
- (74)—*The Coal Trade in Nova Scotia*, by F. W. Gray, op. cit. p. 9.
- (75)—*Coal Statistics for Canada*, 1929. op. cit. Table 45, page 36, and Table 50, page 38.
- (76)—*Report of the Royal Commission*, 1926 op. cit. p.5.
- (77)—*Economic and Social Aspects of the Nova Scotia Coal Industry*, by Eugene Forsey, M.A., op. cit. p. 31.
The reader is also referred to this work for a survey of the history of the marketing of Nova Scotia Coal in the United States, pp. 5-6, and pp. 31-46.
- (78)—*The Coal Trade in Nova Scotia*, by F. W. Gray, op. cit. p. 10.
- (79)—*Annual Report on the Mines, Nova Scotia*, op. cit. Part I, 1929. From figures contained in Table No. 13, p. 228.
- (80)—*The Characteristics and Utilization of Nova Scotia Coals*, by W. S. Wilson, A.M.E.I.C., Assistant Chief Engineer, Dominion Iron & Steel Company, Limited, and published in the *Engineering Journal*, August, 1926, p. 381.
- (81)—*Marketing Nova Scotia Coals*, paper by H. A. Hatfield, Maritime Representative, Babcock-Wilcox and Goldie-McCulloch, Limited, published in the *Engineering Journal*, January, 1926, p. 20.
- (82)—*The Characteristics and Utilization of Nova Scotia Coals*, by Wilson and Booth, op. cit. p. 376.
- (83)—This and further data on banking coal taken from *Marketing Nova Scotia Coals*, by H. A. Hatfield, op. cit.
- (84)—*The Characteristics and Utilization of Nova Scotia Coals*, by Wilson and Booth, op. cit. p. 380.
- (85)—*Coke as a Household Fuel in Central Canada*, by J. L. Landt, Consulting Engineer, Dominion Fuel Board. Bulletin No. 5, 1925, Table 23, p. 137.
- (86)—*Dominion Fuel Board, Second Progress Report*, 1923-1928. op. cit. p.37.
- (87)—P. C. 1537, September 3, 1924.
- (88)—P. C. 226, February 13, 1926.
- (89)—P. C. 539, March 30, 1928.
- (90)—P. C. 2256, October 2, 1930.
- (91)—*Financial Times*, Montreal, February 6, 1931.
- (92)—*Report of the Royal Commission on Maritime Claims*, 1926, pp. 37-38.
- (93)—*An Act to Place Canadian Coal used in the Manufacture of Iron or Steel on a Basis of Equality with Imported Coal*.—20-21, George V, Chapter 6, Assented to May 30, 1930.
- (94)—Imports of Anthracite:

<i>Manitoba and Head of the Lakes</i>	
1919.....	478,582 tons
1929.....	61,900 tons
from <i>Coal Statistics of Canada</i> , 1919 and 1929.	

- (95)—*Canada Year Book*, 1930, p. 363.
- (96)—*Report of Royal Commission*, 1926, op. cit. Addendum by Major Hume Cronyn, K.C., p. 30.
- (97)—*Financial Times*, Montreal, January 30, 1931.

THE FISHING INDUSTRY

- (98)—*See Statistics of the Catch of Cod off the East Coast of North America, to 1926*, by O. E. Sette. Published at Ottawa, 1927.
 - (99)—These figures are obtained from *Reports of Fisheries Branch*, Department of Marine and Fisheries, and after the year 1917 from *Fisheries Statistics of Canada*, Dominion Bureau of Statistics. Unless otherwise stated all further Fishery statistics which may be quoted are obtained from the above sources.
 - (100)—*See also The Dried Fish Trade* by J. J. Cowie, published by the Department of Marine and Fisheries, Ottawa, 1922.
 - (101)—*Export Markets for Fish and Fish Products*, compiled by H. L. Brown, Junior Trade Commissioner, Department of Trade and Commerce, Ottawa, Canada. Preliminary Report, 1930, p. 25.
 - (102)—*Ibid*, p. 33.
 - (103)—*Ibid*, p. 34.
 - (104)—*Ibid*, p. 16.
 - (105)—*Report of the Royal Commission Investigating the Fisheries of the Maritime Provinces and the Magdalen Islands*, 1928. p. 40.
 - (106)—*Reports of the Department of Marine and Fisheries to 1917, and after 1917 from Fisheries Statistics of Canada*.
 - (107)—*Dr. Huntsman Scans British Fishing Industry*, article by Dr. A. G. Huntsman, Director of the Biological Board of Canada, in the *Canadian Fisherman*, February, 1930, p. 20.
 - (108)—*See Canadian Fisherman*, February, 1915.
 - (109)—*Fisheries News Bulletin*, July, 1930.
 - (110)—*Report of Royal Commission on Fisheries*, 1928, op. cit. p. 81.
 - (111)—*Report of the Fisheries Branch, Department of Marine and Fisheries*, 1929. p. 32.
 - (112)—*Province of Nova Scotia: A Submission of its Claims with Respect to Maritime Disability within Confederation*, as presented to the Royal Commission, Halifax, 1926. p. 160.
 - (113)—*Report of Royal Commission on Fisheries*, 1928, op. cit. p. 67.
 - (114)—*See Historical Account of the Lobster Canning Industry*, by Richard H. Williams, published by the Fisheries Branch, Department of Marine and Fisheries, Ottawa, 1930.
 - (115)—*Report of Royal Commission on Fisheries*, 1928, op. cit. p. 17.
 - (116)—*Ibid*. p. 13.
 - (117)—In *Defence of the Trawler*, see:
The Steam Trawler and Fresh Fish Production, by H. V. D. Laing, Secretary, The National Fish Company, Limited, Halifax, N. S.
To Be—or Not to Be—The Fish Pier of North America, by the Nova Scotia Fisheries Development Association of Halifax, N. S.
Hands off the Trawler, by Bengé Atlee, in *MacLean's Magazine*, Toronto, April 15, 1930.
- In *Criticism of the Trawler*, see:
The Trawler is not Necessary to the Successful Development of Nova Scotia's Fisheries—and Why. Some practical men express their views.

A re-print of some recent letters to the press, April, 1930.

Why Fuss About the Trawler? by Winthrop Bell, in MacLean's Magazine, April 15, 1930.

(118)—*Report of Royal Commission on Fisheries*, 1928, op. cit. p. 113.

(119)—*Letter from Mr. C. J. Morrow*, Secretary-Treasurer of the Lunenburg Sea Products, Limited, in the *Halifax Herald*, April, 1930.

THE TOURIST TRADE

(120)—The following is an extract from *The Tourist Trade, Canada*, 1930, (p.2) issued by the Dominion Bureau of Statistics, Ottawa.

"The total expenditure of tourists from other countries in Canada in the years 1920 to 1930 were approximately as follows:

1920	\$ 83,734,000
1921	86,394,000
1922	91,686,000
1923	130,977,000
1924	173,002,000
1925	193,174,000
1926	201,167,000
1927	238,477,000
1928	275,230,000
1929	309,379,000
1930	279,238,000

NOTE:—Figures prior to 1924 are only roughly comparable with later ones. Those for the years 1924-30 have been revised on the basis of the methods adopted for 1930 and are therefore comparable."

(121)—It is pointed out by the Dominion Bureau of Statistics that the figures given for expenditures by United States motorists does not signify the amount spent in a particular Province, but merely the amount spent by motorists entering Canada through such Province. *The Tourist Trade, Canada*, 1930, op. cit. p. 3.

(122)—The Dominion Bureau of Statistics classifies the expenditure for 1930 as follows:

Entering Canada:	Per Cent
By Automobile from the United States.....	\$202,409,000— 72.49
From the United States by Rail and Steamer.....	63,874,000— 22.87
Via Ocean Ports.....	12,955,000— 4.64
	<hr/> \$279,238,000—100.00

The basis used for the estimates of the Dominion Bureau of Statistics has been obtained by the circularizing of American motorists upon re-entering the United States, by estimates of those in touch with the trade for tourists entering from the United States by Rail and Steamer, and by the circularizing of Canadian tourists returning from abroad. In 1929 there were circulated to American tourists returning to the United States 5000 cards soliciting particulars regarding their expenditures while in Canada, and in 1930 a similar procedure was followed, the number of cards being increased to 10,000. There were returned in 1929, 709 cards or 14.18% of the cards distributed, and in 1930, 1117 cards, or 11.17%. Not only were the numbers of the returns relatively small, but, when the total trade is considered, were paltry samples, as will be seen from the following figures:

	<i>No. of Cars Entering Canada</i>	<i>No. of Cards Returned</i>	<i>Percentage</i>
1930	5,409,458	1117	.027
1929	4,508,809	709	.016

Continuing the analysis further, it is learned that the motor car tourists are divided into three classes:

- (1)—Admitted for a period not exceeding 24 Hours,
- (2)—Admitted for a period not exceeding 60 Days,
- (3)—Admitted for a period exceeding 60 Days, and not more than 6 Months, and the returns from the questionnaires were grouped according to this classification, the results of which are summarized below:

	1930	1929
1 Day Cars entering.....	4,110,100	3,416,588
No. of replies received.....	200	140
Percentage of replies to cars entering.....	.005	.004
60 Day Cars entering.....	1,297,030	1,091,014
No. of replies received.....	913	569
Percentage .....	.07	.05
6 Months Cars.....	2,328	1,207
No. of replies received.....	4	.....
Percentage .....	.17	.....

Upon this evidence the Bureau estimates the expenditure for 1930 one day cars at \$13.61, for sixty day cars at \$112—, and for six months cars at \$517—.

The Tourist Trade, Canada, 1930, op. cit. pp.2, 3, 7 and 8.

- (123)—Attention ought to be drawn to the large number of cars in the twenty-four hour class, which in 1930 accounted for 75.98% of the whole, and in Ontario for 83.33%. Of the total of 4,110,100 twenty-four hour cars entering Canada, 3,470,589 are credited to Ontario, and whether or not many of these ought to be considered as tourists is a problem which official circles do not seem to have seriously considered. In any border territory there is much visiting and re-visiting back and forth across the line, involving little, if any, money; what is more, Ontario is in an exceptional position in that the shortest route between Detroit and Buffalo lies to the north rather than to the south of the lake, and many who take this route will spend little on the Canadian side of the line.
- (124)—*Report of the Department of Highways, Province of Nova Scotia, 1930 p. 21.*
- (125)—*Canada Year Book, 1930, p. 652.* The figures given are for the year 1928.
- (126)—The Bureau of Statistics assists greatly through the information collected and will, no doubt, do much more as funds are made available. The Departments of Immigration, and Trade and Commerce, help to keep the name of Canada before the public of other countries through their general publicity work. The Dominion has also made its contribution to Provincial road funds, which has helped the tourist trade by making possible the additional attraction of better roads.
- (127)—*New Brunswick, Report of the Comptroller-General of Public Accounts 1930, p. 244.*
Nova Scotia, Report of Department of Highways, 1930, op. cit. p. 48.
Prince Edward Island Publicity Association, Eighth Annual Report, January, 1931, p. 12.

- (128)—The total expenditure for roads and smaller bridges for the three Provinces for the years 1927 to 1930 inclusive was divided as follows:

NOVA SCOTIA

	<i>Capital Account</i>	<i>Maintenance Account</i>	<i>Total</i>
1927	\$1,470,469	\$1,718,749	\$3,189,218
1928	2,960,047	1,848,378	4,808,425
1929	1,248,037	1,782,138	3,030,175
1930	2,702,217	2,055,824	4,758,041

(*Reports of the Department of Highways, Province of Nova Scotia, for the years ending December 31, 1927-8-9-30*).

NEW BRUNSWICK

1927	1,919,485	875,755	2,795,240
1928	3,478,544	1,058,675	4,537,219
1929	4,900,732	1,566,472	6,467,204
1930	6,537,323	1,759,361	8,296,684

(*Reports of the Comptroller-General of the Public Accounts of the Province of New Brunswick for the fiscal years ending October 31st, 1927-8-9-30*).

PRINCE EDWARD ISLAND

1927	101,554	144,368	245,922
1928	272,843	154,574	427,417
1929	214,518	211,501	426,019

1930 figures not yet available.

(*Reports of the Provincial Auditor of Public Accounts of the Province of Prince Edward Island, for the years ending December 31st, 1927-8-9*).

- (129)—*Reports of the Public Accounts of the Provinces of Nova Scotia and New Brunswick, 1930, of Prince Edward Island, 1929, and, Report of the Department of Highways, Nova Scotia, 1930.*

- (130)—In the Province of Quebec during 1930, or earlier, a survey appears to have been made of the expenditure by tourists, which has formed the basis of the following table used by Lt.-Col. Oscar Gilbert in a paper read at the 1930 Convention of the Canadian Good Roads Association:

Out of every \$100 spent by tourists:

Hotels receive.....	\$23.00
Restaurants and Rooming Houses.....	16.00
Stores	31.00
Garages	10.00
Theatres	8.00
Various other branches of business.....	10.00

This table is unsatisfactory; primarily, because, irrespective of the thoroughness with which the investigation was made, it is definitely stated that the statistics gathered were but "few."

(See Report of Proceedings of the Seventeenth Annual Convention of the Canadian Good Roads Association, September, 1930, p. 104).

- (131)—Expenditure of Tourists from Other Countries in Canadian Hotels:

Province	Expenditure		
	1927	1929	1930
Prince Edward Island.....	\$ 21,000	\$ 36,000	\$ 40,000
Nova Scotia	762,000	924,000	864,000
New Brunswick	496,000	675,000	590,000

(*The Tourist Trade, Canada, 1930, op. cit., p. 4.*)

- (132)—*Report of Canadian Good Roads Association, 1930, op. cit. p.103.*

- (133)—The following is an extract from speech of Mr. C. E. Neill, Vice-President and Managing-Director, to the Shareholders of The Royal Bank of Canada, and contained in that institution's monthly letter, January, 1930: "There have been few careful studies of the subject, but those who are most familiar with tourist expenditures in Canada state that the preponderant amount is for lodging, food, gasoline and beverages, and that it is probable that not more than Sixty Million Dollars, or less than four dollars per capita, has been spent for merchandise which was taken out of the country."

In the Report of the Canadian Good Roads Association, op. cit., p.104, the amount allotted for expenditure by tourists in stores is \$31.00 out of every \$100.

Both these estimates seem rather high.

THE AGRICULTURAL INDUSTRY

- (134)—*Agriculture in Nova Scotia since 1870*, by Professor A. B. Balcom, in *The Dalhousie Review*, 1928-29. p.41.
- (135)—*The Maritime Provinces Since Confederation*, issued by the Dominion Bureau of Statistics, Ottawa, 1927. p.28.
- (136)—*Report of the Agricultural Enquiry Committee, 1926*, printed by order of the Government, Halifax, p.9.
- (137)—*Report of the Chemist, Canada*, Department of Agriculture, Central Experimental Farm, 1900, p.153.
Ibid, 1901, p.142, and *Report from the Division of Chemistry*, Dominion Department of Agriculture, 1914, p.91.
- (138)—*The Soils of Prince Edward Island, Their Nature and Composition, with Suggestions as to Fertilizer Treatment*, by Frank T. Shutt, D.Sc., F.I.C., Dominion Chemist. Published by the Dominion Department of Agriculture, 1928.
- (139)—*Report from the Division of Chemistry, 1914*, op. cit. pp.104-5-6, 108-9. (Experiments at Fredericton).
- (140)—*The Maritime Provinces Since Confederation*, op. cit. p.29.
- (141)—For an excellent summary of the factors involved see *Economic Factors in the Changing Distribution of Population between Urban Centres and Rural Areas*, by E. W. Shanahan, in the *Economic Journal*, 1927. p.395.
- (142)—*Dominion Census, Vol. 11*, p.13.

This table is not reliable for 1871 and 1881. When compiling the Census figures for 1901 it was discovered that an error had been made in making these estimates for the previous periods. It was possible to correct the figures for 1891, but not for the earlier dates, concerning which the following statement was made:

"There is no doubt that in 1871 and 1881 the area of land under crops was computed in the same way as in 1891 It appears to be almost certain that the area of land under crops given for 1871 and 1881 are much too great."

(143)—*Report of Dominion's Royal Commission*, 1914, p. 71.

(144)—*The Dairy Industry in Canada*, pp. 25-6-7.

(145)—The following figures for the production of Creamery Butter, Factory Cheese, Dairy Butter, and Home-made Cheese, for 1881 to 1911 are taken from *The Dairy Industry in Canada*; from 1911 to 1925 from volumes of the *Canada Year Book*, and from 1925 to 1929 from Provincial Reports.

PRODUCTION OF CREAMERY BUTTER IN MARITIME PROVINCES
(In Pounds)

	<i>Prince Edward Island</i>	<i>Nova Scotia</i>	<i>New Brunswick</i>
1891 .....	.....	8,040	8,000
1901	562,220	334,211	287,814
1911 .....	.....	.....	821,858
1915	539,516	1,240,483	776,416
1920	1,166,032	2,503,188	1,053,649
1921	1,109,546	3,094,768	1,152,168
1922	1,262,006	3,329,426	1,224,930
1923	1,537,437	3,550,666	1,231,471
1924	1,560,250	4,139,469	1,225,615
1925	1,724,283	4,530,028	1,279,417
1926	1,842,141	4,764,807	1,416,356
1927	2,028,554	5,108,110	1,885,262
1928	2,036,838	4,561,667	2,091,723
1929	1,883,292	4,254,379	1,850,768

PRODUCTION OF FACTORY CHEESE IN MARITIME PROVINCES
(In Pounds)

	<i>Prince Edward Island</i>	<i>Nova Scotia</i>	<i>New Brunswick</i>
1881 .....	.....	406,570	46,456
1891	84,480	456,650	270,520
1901	4,457,579	568,147	1,892,686
1910	3,293,755	264,243	1,053,001
1915	2,260,000	125,580	1,165,651
1920	2,081,277	52,638	1,235,008
1921	1,681,779	29,440	1,100,382
1922	1,752,233	31,820	926,052
1923	1,811,537	34,332	825,369
1924	2,048,937	34,475	942,220
1925	2,001,242	34,856	1,130,773
1926	2,002,855	31,357	1,059,257
1927	1,656,430	42,676	802,000
1928	1,710,943	25,230	697,811
1929	1,391,601	18,867	582,268

(146)—

PRODUCTION OF DAIRY BUTTER IN MARITIME PROVINCES
(In Pounds)

	<i>Prince Edward Island</i>	<i>Nova Scotia</i>	<i>New Brunswick</i>
1861	711,487	4,532,711	4,591,477
1871	981,939	7,161,867	5,115,947
1881	1,688,690	7,465,285	6,527,176
1891	1,969,213	9,011,118	7,798,268
1901	1,398,112	9,060,742	7,842,533
1911	2,309,691	10,978,911	9,053,394
1921	2,087,739	8,746,067	8,387,606

PRODUCTION OF HOME-MADE CHEESE IN MARITIME PROVINCES

1861	109,133	901,296	218,067
1871	155,527	884,853	154,758
1881	176,273	501,655	172,144
1891	123,708	589,363	39,716
1901	Not Given	Not Given	Not Given
1911	9,422	199,250	3,567
1921	986	89,777	9,521

(147)—*The Financial*, Montreal., February 13, 1931.

(148)—*The Economic Annalist*, published by the Department of Agriculture, Ottawa, January, 1931, p. 8.

(149)—The following figures for Wheat production in the Maritimes are taken from the *Census Returns*, *Agricultural Statistics*, *Canada Year Books*, and *Provincial Reports*, and unless otherwise stated, this applies to all further similar agricultural tables which may be given.

PRODUCTION OF WHEAT IN THE MARITIME PROVINCES

Prince Edward Island		Nova Scotia		New Brunswick	
<i>Acres</i>	<i>Bushels</i>	<i>Acres</i>	<i>Bushels</i>	<i>Acres</i>	<i>Bushels</i>
1871 —	269,000	.....	228,000	.....	205,000
1881 —	547,000	.....	529,000	.....	522,000
1891 — 44,703	613,000	14,157	166,000	17,306	210,000
1901 — 42,318	738,000	16,334	248,000	26,990	381,000
1911 — 28,741	502,000	12,198	224,000	13,424	204,000
1921 — 26,828	360,000	14,069	222,000	12,641	225,000
1925 — 30,835	554,000	9,484	169,600	13,396	225,800
1926 — 31,238	562,000	8,877	149,000	10,916	180,000
1927 — 29,381	424,000	6,996	126,700	9,871	142,000
1928 — 26,099	498,000	6,021	113,800	8,856	157,900
1929 — 27,057	452,000	6,056	95,000	8,916	168,000

(150)— PRODUCTION OF OATS IN THE MARITIME PROVINCES

Prince Edward Island		Nova Scotia		New Brunswick	
<i>Acres</i>	<i>Bushels</i>	<i>Acres</i>	<i>Bushels</i>	<i>Acres</i>	<i>Bushels</i>
1871 —	3,129,000	.....	2,190,000	.....	3,044,000
1881 —	3,538,000	.....	1,873,000	.....	3,298,000
1891 — 153,924	2,923,000	94,117	1,561,000	157,176	3,025,000
1901 — 164,472	4,558,000	91,087	2,342,000	186,932	4,812,000
1911 — 181,461	5,213,000	96,309	2,974,000	201,147	5,539,000
1921 — 162,625	3,687,000	95,547	2,732,000	212,274	5,431,000
1925 — 168,727	5,519,000	117,174	3,878,000	225,402	6,813,500
1926 — 160,590	5,564,000	113,957	3,849,000	204,686	5,118,000
1927 — 162,001	4,412,000	111,534	3,727,700	203,536	5,227,000
1928 — 164,062	5,593,000	109,163	3,648,000	209,085	6,339,000
1929 — 170,105	5,524,000	109,836	3,523,300	216,530	6,588,000

(151) PRODUCTION OF BUCKWHEAT IN THE MARITIME PROVINCES

<i>Prince Edward Island</i>		<i>Nova Scotia</i>		<i>New Brunswick</i>	
<i>Acres</i>	<i>Bushels</i>	<i>Acres</i>	<i>Bushels</i>	<i>Acres</i>	<i>Bushels</i>
1871 —	75,000	.....	234,000	.....	1,231,000
1881 —	90,000	.....	340,000	.....	1,587,000
1891 — 5,088	84,000	8,782	184,000	60,008	1,137,000
1901 — 2,993	50,000	9,371	196,000	73,521	1,390,000
1911 — 2,798	44,000	11,810	206,000	65,094	1,151,000
1921 — 1,756	26,000	5,834	90,000	38,440	726,000
1925 — 2,496	61,000	7,466	160,200	44,799	1,152,500
1926 — 2,868	84,000	7,458	173,300	45,503	941,000
1927 — 2,865	84,000	7,109	150,000	45,091	912,000
1928 — 2,881	64,400	7,145	154,600	42,594	1,011,300
1929 — 3,091	68,900	8,221	189,100	44,533	1,064,100

(152) PRODUCTION OF HAY IN THE MARITIME PROVINCES

<i>Prince Edward Island</i>		<i>Nova Scotia</i>		<i>New Brunswick</i>	
<i>Acres</i>	<i>Tons</i>	<i>Acres</i>	<i>Tons</i>	<i>Acres</i>	<i>Tons</i>
1871 —	68,000	412,961	444,000	334,997	345,000
1881 — 119,936	144,000	519,856	598,000	389,721	414,000
1891 — 150,108	133,000	539,057	632,000	470,834	476,000
1901 — 118,996	168,000	554,371	647,000	549,538	511,000
1911 — 215,053	256,000	540,589	724,000	630,305	669,000
1921 — 212,133	212,000	471,301	641,000	554,755	594,000
1925 — 249,423	366,000	502,507	906,000	548,408	954,000
1926 — 251,977	429,000	522,069	844,000	559,019	813,000
1927 — 252,540	372,000	513,724	800,000	556,093	712,000
1928 — 254,697	410,000	527,612	925,000	554,850	796,000
1929 — 257,188	352,000	540,841	876,000	559,203	736,000
Average—					
5 Years,					
1925-					
1929 — 253,165	385,800	521,351	870,200	555,515	802,200

(153)—*Annual Report, Department of Natural Resources, Nova Scotia, 1925.*
Report of the Secretary for Agriculture, p. 204.

(154)—SHEEP ON FARMS IN THE MARITIMES

<i>Prince Edward Island</i>		<i>Nova Scotia</i>	<i>New Brunswick</i>
1871	147,364	398,377	234,418
1881	166,496	377,801	221,163
1891	147,372	331,492	182,941
1901	125,175	278,549	180,626
1911	91,232	221,074	158,316
1921	105,884	271,742	187,545
1925	87,219	273,499	151,349
1926	83,437	282,458	156,616
1927	89,606	257,215	153,057
1928	97,092	270,461	160,514
1929	97,367	277,761	151,257

(155)—*Live Stock and Animal Products Statistics, 1929*, issued by the Dominion Bureau of Statistics, Agricultural Branch. Unless otherwise stated this reference also applies to all further figures which may be given in connection with animals and meat products.

- (156)—*Annual Report of the Department of Agriculture of the Province of Prince Edward Island*, 1929, p. 54.
See also *Co-operative Marketing—The Golden Rule in Agriculture*, by Herman Steen, 1923, p. 235.
- (157)—*Report on the Fur Farms of Canada*, 1927, p. 27. Issued by the Dominion Bureau of Statistics.
- (158)—*Ibid*—p. 26.
See also *Geographic Aspects of the Prince Edward Island Fur Industry*, by F. A. Stilgenbauer, University of Michigan. p. 110, *Economic Journal*, 1927.
- (159)—*Financial Times*, Montreal, February 13, 1931, "Maritime Farmers Fare Better than Those of West."
- (160)—*Report of Department of Agriculture, Prince Edward Island*, 1929, op. cit. p. 49.
- (161)—*The Potato Situation in Cuba*, by Enrique Heymann, Office of the Canadian Government Trade Commission.
- (162)—*The Maritime Provinces Trade Commission of Ontario, First Annual Report*, 1930, p. 11, and *Second Annual Report*, 1931, p. 22.
- (163)—*Commercial Intelligence Journal*, issued by the Department of Trade and Commerce, Ottawa, June, 1929, p. 849.
See also *Foreign Markets for Canadian Certified Seed Potatoes*, pamphlet issued by the Department of Trade and Commerce, Ottawa, 1930, p. 26.
- (164)—*Paper prepared by Mr. A. G. Turney, Provincial Horticulturist, New Brunswick*, in 1926, also *Reports of the Provincial Horticulturist in Department of Agriculture Reports*.
- (165)—3-4, *George V, Chapter 5, 1912-1913, The Agricultural Instruction Act*, assented to June 6, 1913. See the *Agricultural Gazette*, January, 1914, p. 31. (*The Agricultural Aid Act, 1912*, is repealed).
- (166)—*Report of the Agricultural Enquiry Committee*, 1926, pp. 25-6 "Rural Credits." Printed by order of the Government. Halifax, N. S.

THE APPLE INDUSTRY OF THE PROVINCE OF NOVA SCOTIA

- (167)—*The Apple Industry of the Annapolis-Cornwallis Valley*, by Charles C. Colby, Professor of Geography, University of Chicago, in the *Economic Geography*, 1925, p. 177.
- (168)—The three-quarters of a mile, bringing the line into Halifax proper was completed about 1877.
- (169)—*Report of the Apple Marketing Enquiry Committee*, 1927, p. 7.
- (170)—*The Apple Industry of the Annapolis-Cornwallis Valley*, by C. C. Colby, op. cit. p. 194.
- (171)—*Report of the Department of Natural Resources*, Nova Scotia, 1928, p. 63.
- (172)—*Report of the Nova Scotia Fruit Growers' Association*, 1930, p. 114.
- (173)—*Report of the Department of Natural Resources*, Nova Scotia, 1929, p. 10.
- (174)—*Report of the Royal Commission investigating the Apple Industry of the Province of Nova Scotia*, 1930, pp. 10, 12.
- (175)—*Trends in the Apple Industry*, by Professor W. V. Longley, Director of Extension, College of Agriculture, Truro; published in *Report of the Nova Scotia Fruit Growers' Association*, 1930, p. 96.
- (176)—*Dominion Royal Commission on Natural Resources*, 1914. Minutes of Evidence taken in Maritime Provinces. p. 86.
- (177)—*Report of the Royal Commission*, 1930, op. cit.—pp. 48-9.
- (178)—*Report of the Apple Marketing Enquiry Committee*, 1927. p. 10.

- (179)—*Suggested Apple Grade Improvements* by W. B. Gornall, Assistant Fruit Commissioner, Ottawa, and published in *Report of the Nova Scotia Fruit Growers' Association*, 1930, p.115.
- (180)—*Nova Scotia and Ontario Apples on the British Market*, by J. Forsythe Smith, Canadian Fruit Trade Commissioner, London, published in *Report of the N. S. Fruit Growers' Association*, 1930, p.105.
- (181)—*Trends in the Apple Industry*, by W. V. Longley, op. cit. p. 96.
- (182)—*Ibid.* p. 97 (Trees in Nova Scotia increased 56% and in British Columbia 70%).
- (183)—*Ibid.* p. 98.
- (184)—*The Apple Industry of the Annapolis-Cornwallis Valley*, by C. C. Colby, op. cit. p. 338.
- (185)—*Report of the Royal Commission, 1930*, op. cit. p. 15.
- (186)—*Trends in the Apple Industry* by W. V. Longley, op. cit. p. 95.
- (187)—*Report of the Royal Commission, 1930*, op. cit. p. 12.
- (188)—*Ibid.* p. 14.
- (189)—*Ibid.* pp. 11-12.
- (190)—*Report of the Department of Natural Resources, Nova Scotia*, 1929, p. 45.
- (191)—*The Apple Industry of the Annapolis-Cornwallis Valley*, by C. C. Colby, op. cit. p. 191.
- (192)—*Fruit Distribution in the Canadian West*, by J. M. Cassels in the *Journal of Political Economy*, 1929, p. 690.
- (193)—*Report of the Royal Commission, 1930*, op. cit. p. 65.
- (194)—*Report of Dominions Royal Commission, 1914*, op. cit. Evidence of Mr. S. B. Chute, p. 82.
- (195)—*Problems of the Maritime Provinces* by Prof. C. R. Fay in the *Dalhousie Review*, 1924-5, p. 445.
- (196)—*Report of the Royal Commission, 1930*, op. cit. p. 33.
- (197)—*Ibid.* p. 27.
- (198)—*Ibid.* p. 32. See quotation from the Report of the Imperial Economic Committee which is endorsed by the Commission and shows clearly they consider proper regulation of supplies to the various ports does not yet exist.
- (199)—*The Apple Industry of the Annapolis-Cornwallis Valley*, by C. C. Colby, op. cit. p. 339.
- (200)—*Report of the Royal Commission, 1930*, op. cit. pp. 21-26 inclusive.
- (201)—*Ibid.*—p. 27.
- (202)—*Ibid.*—p. 28: "The general amount of rebate seems to be 9d. per barrel and 2% of the selling commission."
- (203)—*Ibid.*—p. 28.
- (204) to
- (214) inclusive—These references are all from the *Report of the Royal Commission, 1930*, op. cit. as follows:
- | | |
|--------------------|-----------------|
| (204)—p. 30 | (210)—p. 17 |
| (205)—p. 35 | (211)—pp. 22-23 |
| (206)—p. 36 | (212)—pp. 67-70 |
| (207)—p. 36 | (213)—pp. 23-25 |
| (208)—p. 31 | (214)—p. 32. |
| (209)—pp. 18 to 20 | |

MANUFACTORIES

- (215)—*Problems of the Maritime Provinces*, by Professor C. R. Fay, in the *Dalhousie Review*, 1924-5. p. 448.

TRANSPORTATION

- (216)—*The Contractual Transportation Rights of the Maritime Provinces, and, The Problems of the Maritime Provinces within Confederation*, by Alexander P. Paterson.
- (217)—*Maritime Freight Rates Act*, Bill No. 224, passed by the House of Commons, April 5, 1927.
- (218)—*Report of the Royal Commission on Maritime Claims*, 1926. p. 25.
- (219)—*The Province of Nova Scotia—A Submission of its Claims . . .* as presented to the Royal Commission, 1926, p. 122.
- (220)—*Disadvantages of the Port of Halifax, Nova Scotia Claims*, op. cit. p. 124.
- (221)—*The Investigation into Alleged Combine Limiting Competition in the Marketing of New Brunswick Potatoes*, June 9, 1925, p. 19.
- (222)—*Foreign Markets for Canadian Certified Seed Potatoes*, issued by the Department of Trade and Commerce, Ottawa, p. 20.
- (223)—*Export Markets for Fish and Fish Products*, issued by the Department of Trade and Commerce, 1930, p. 26.
- (224)—The line of "Lady" Boats running to the West Indies is making noticeable inroads upon the trade that formerly flowed through American ports, and the increased interest in the West Indian market is definitely associated with improved shipping facilities.

EDUCATION

- (225)—*Annual Report of the Superintendent of Education for Nova Scotia*, 1928, p. 15.
- (226)—See *Report of the Director of Elementary Agricultural Education*, in Annual Reports, Department of Agriculture, New Brunswick.
- (227)—*Report of Superintendent of Education for Nova Scotia*, 1928, op. cit. p. 19.
- (228)—See *Annual Reports of New Brunswick Vocational Education Board*, 1919-1930.
- (229)—*Vocational Education*, issued by the Technical Education Branch, Department of Labor, Ottawa, January, 1930.
- (230)—*Agricultural Gazette of Canada*, 1914, p. 31.
- (231)—*Vocational Education*, op. cit.
- (232)—*Report of the Royal Commission on Maritime Claims*, 1926, p. 43.
- (233)—*Rural Taxation in the Province of New Brunswick*, by W. C. Keirstead in *Journal of Political Economy*, Vol. 34, 1926, p. 681. Table V. (District of Inkerman, County of Gloucester).
- (234)—*Annual Report of the Superintendent of Education for Nova Scotia*, 1927, p. 21.
- (235)—*Rural Taxation in the Province of New Brunswick*, by W. C. Keirstead, op. cit. p. 687.

DOMINION SUBSIDIES

- (236)—*Report of the Royal Commission on Maritime Claims*, 1926. p. 19.

GENERAL PROPOSALS

(237)—See *Financial Times*, issue of December 12, 1930, report of meeting of Maritime Board of Trade.

(238)—When the Industrial Development Board of Manitoba was formed, the sum of \$25,000 per year for a period of three years was guaranteed as follows:

Manitoba Government.....	\$10,000
City of Winnipeg.....	10,000
Winnipeg Board of Trade.....	2,500
Private Power Companies.....	2,500

The above information is secured from a circular entitled "*Some Facts About the Industrial Development of Manitoba*," accompanying a letter from the Managing-Director dated January 27, 1931.

